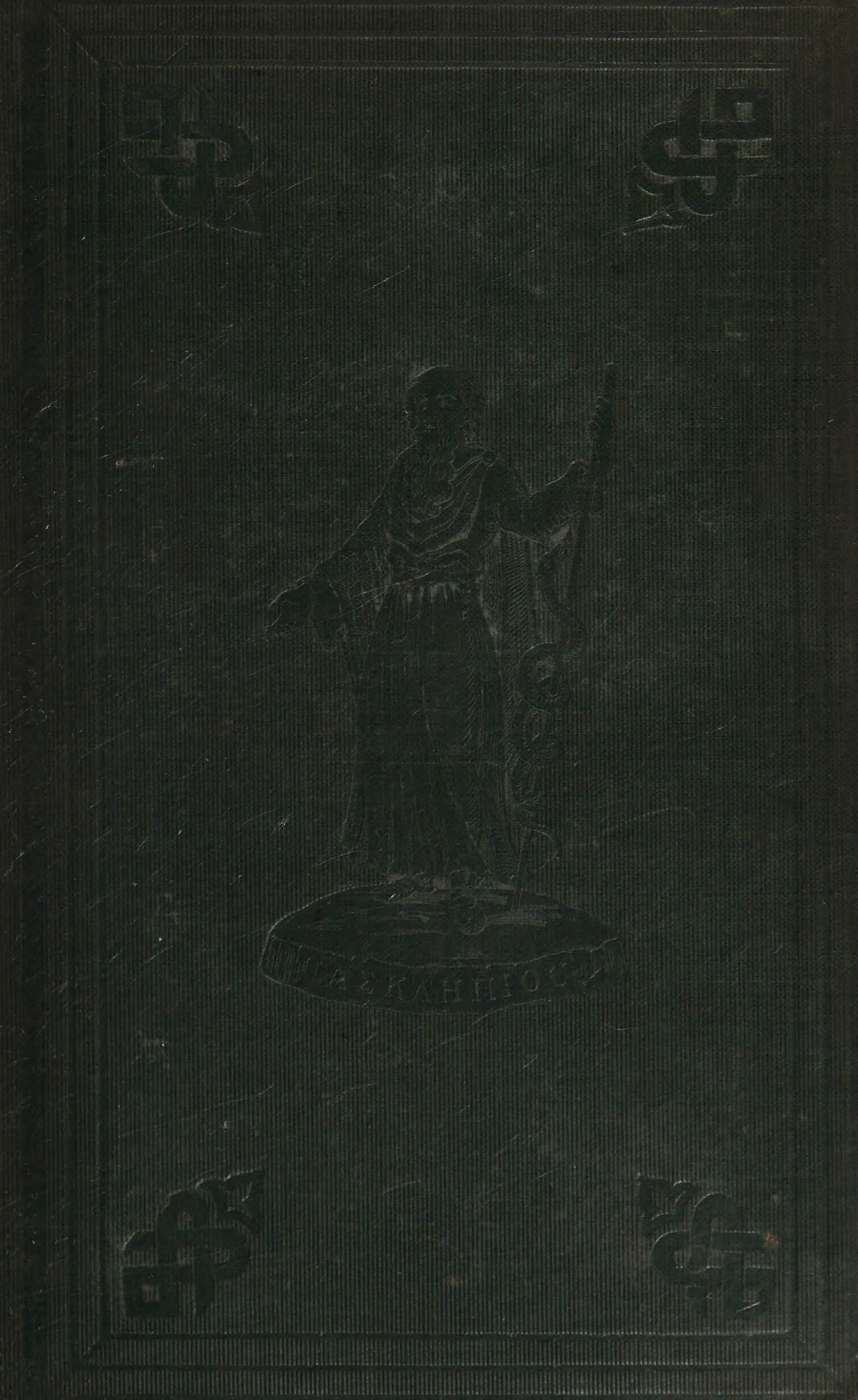

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HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES.

JULY—DECEMBER

1853.

PRINTED BY C. AND J. ADLARD, BARTHOLOMEW CLOSE.

THE

HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES:

BEING

A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED IN THE PRECEDING SIX MONTHS:

TOGETHER WITH A

SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES DURING THE SAME PERIOD.

EDITED BY

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VOL. XVIII.

JULY—DECEMBER 1853.

LONDON:

JOHN CHURCHILL, PRINCES STREET, SOHO.

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Vol. XIX will appear on the 1st of July, 1854.

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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

&c. &c.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

(A.) HYGIENE.

ART. 1.—*On the Comparative Mortality of Large Towns and Rural Districts, and on the Causes by which it is influenced.*
By JOHN SNOW, M.D., F.R.S.

(*Medical Times and Gazette*, May 28, 1853.)

THE following is an abstract of a paper recently read before the Epidemiological Society:

The shorter average duration of life in large towns, as compared with rural districts, depends on the greater mortality in early childhood, and the smaller number of adults who attain to old age. In Liverpool and Manchester half the children born die before they are five years of age, the numbers being 52 and 51 per cent. In Birmingham 48 per cent. of the deaths occur before this age, and in London rather more than 40 per cent., but in Wiltshire and Surrey only 31 per cent. The greatest number of deaths in any decennial period, after the age of five, takes place in Surrey,—from 65 to 75 in males, aad from 75 to 85 in females. In Manchester, Liverpool, and Sheffield, the highest mortality after early childhood is from 35 to 45 in males, and from 25 to 35 in females, or 40 years earlier than in the same sex in London. In Leeds, Blackburn, Preston, Stockport,

Macclesfield, and some other towns in which textile fabrics are manufactured, the greatest mortality in both sexes, after infancy is passed, occurs from 15 to 25; although in two registration districts, not more than 20 miles from Leeds, the highest mortality, in both sexes is from 75 to 85, or 60 years later than in these towns. In London, however, the mortality, at the period immediately succeeding to puberty, is lower even than in the rural districts, more especially in the female sex. On comparing some of the worst districts of London, such as St. Giles's and Clerkenwell, with the more distant and rural parts of Surrey, the advantage of the town over the country, in the small number of deaths at this period of life, is more striking. In St. Giles's, the annual mortality in the seven years, 1838 to 1844, between the ages of 15 and 25, was 59 males and 68 females to 10,000 of each sex living at that period of life; while, in the Guildford district, the numbers were 77 males and 99 females. On examining the Tenth Annual Report of the Registrar-General, all the chief diseases of infancy are found to be more fatal in London than in the adjoining rural districts. Convulsions, hydrocephalus, and diarrhœa, probably owe their greater fatality to improper food and general treatment; while the constant presence of various infectious diseases in London increases the mortality, by affecting children at an earlier average age than in the country, where they pay only occasional visits, and thus enable many of the children to escape an attack till a later period, when certain of them, as hooping-cough and measles, are hardly ever fatal. A proof of the frequently later attacks of these diseases in the country is the fact, that the deaths from scarlet fever in the South Midland district, from the age of 10 to 20, are much more numerous than in London, although, under 5 years, when the chief mortality occurs, it is greatest in London. The diseases which cause the mortality of the rural districts to exceed that of London, from 15 to 25 years of age, are phthisis and typhus, which are more fatal at this period of life in the country than in London. Typhus, indeed, is more fatal at all ages and in both sexes, and phthisis is much more fatal in the female sex, in whom it occurs also at an earlier period of life than in London. The probable cause of the great fatality of consumption among young females in the rural districts, is deficient nourishment, consequent on the difficulty of obtaining employment. Typhoid fever is probably less fatal in London than in the country, on account of the numbers who gain an immunity from it in after life by passing through it in childhood, when it is less fatal, and generally goes by the name of infantile remittent. It is chiefly to phthisis that the great mortality of both sexes between the ages of 15 and 25 in certain manufacturing towns is due. The above circumstances show that the high mortality which prevails in most large towns is occasioned more by the habits and occupations of the people, and some other causes, than by the mere influence of living in towns.

Art. 2.—*Statistics of Deaths among the Assured.*

By Rob. Christison, M.D., and J. Begbie, M.D.

(*Edinburgh Monthly Journal*, Aug. 1853.)

Drs. Christison and Begbie have recently presented reports on this subject to the Medical and Chirurgical Society of Edinburgh, of which the following is an abstract. The reports are published at length in the 'Edinburgh Monthly Journal' for August.

The report of Dr. Christison is chiefly directed to the investigation of the causes of death as bearing on the business of life assurance; that of Dr. Begbie, while embracing this view of the subject, enters more into strictly medical detail, for which the large experience of the Scottish Widows' Fund (embracing considerably more than 1000 deaths) afforded a sufficient basis. Both reports were full of matter interesting to every medical practitioner. A large proportion of deaths in both offices had been caused by epidemic fever; and both reports testify to the fact, that the typhus of this country is not only a frequent cause of death, but that it appears to select its victims very frequently from the most unexceptionable lives of the community, and to terminate these abruptly at the period of greatest activity. The same may be said of cholera, which, during the last epidemic visitation, seems to have fallen heavily upon the assured in middle life. Next to fever, as a source of loss to the community, stands phthisis and tubercular disease, which likewise finds its victims to a great extent before the middle period of life. It is remarked that, in the report of the Scottish Widows' Fund, the number of deaths from phthisis after the age of 40 appeared larger than is usually observed in mortality lists, or in the general experience of medical men. In apoplexy and palsy, on the other hand, the returns at the different ages correspond closely with the table given by Rochoux. An accurate analysis of the deaths from these causes shows that, whereas in phthisis most of the lives had, at the period of acceptance, presented some character which might have led to their being considered doubtful; this was not the case in apoplexy. The investigation, therefore, of the premonitory signs of the apoplectic tendency was pointed out as a desideratum by the authors of the papers.

Art. 3.—*On Soot as a Deodoriser.*

By Robert Elliot, M.D., of Carlisle.

(*Lancet*, Oct. 1, 1853.)

Dr. Elliot, writing to the editor of the 'Lancet,' says that a few shovelfuls of soot may be advantageously substituted for quicklime where it is desirable to destroy the foul exhalations arising from emptied privies or drains. The suggestion, which was made by the Rev. Mr. Dew, of St. Cuthbert's Church, and which has been put to the test of experience at Carlisle, seems of some value.

(B.) ACUTE DISEASES.

ART. 4.—*On the Arrest of Continued Fever by Cinchonism.* By (1) J. OGDEN FLETCHER, M.R.C.S., Surgeon to the Manchester Fever Wards; and (2) R. GEE, M.D., and W. EDDOWES, Esq., Resident Medical Officers of the Liverpool Fever Hospital.

(1) *Medical Times and Gazette*, April 23, 1853; and (2) *Lancet*, July 2, 1853.

In an article upon this subject Mr. Fletcher thus writes:

I had long been convinced of the great good produced by the administration of quinine in the early stages of uncomplicated typhus fever. In the Manchester epidemic of 1847-48, its effects were highly beneficial; and I was led to the conclusion, that in all cases of fever where there was a tendency to bowel complication (a very general one in this district), the early administration of quinine would certainly check, if not cut short, the disease.

Since I became aware of the views of Dr. Dundas, I have followed them out in all uncomplicated cases of typhus fever; and the result of my experience in eighty cases admitted into the Manchester Union Fever Wards is briefly as follows:—

1st. In the majority of cases, cinchonism established a permanent convalescence within forty-eight hours.

2dly. In the cases where the typhoid character was established prior to the use of the remedy, five sixths were convalescent within fourteen days.

3dly. In children and patients under puberty, suffering from uncomplicated typhus, nine tenths were discharged cured within fourteen days.

4thly. In cases complicated with pneumonia, and attended with rose-coloured spots, the latter disappeared under cinchonism; but a more active form of fever often supervened, which required depletion and other active remedies.

5thly. In all cases where the complication was well established—whether pneumonia, ulceration of the bowels, or cerebral congestion—cinchonism produced very little good.

Dr. Gee and Mr. Eddowes give the following statistical results of their experience:

Of 61 uncomplicated cases, 11 were under treatment during the first seven days: of these, 2 were free from fever on the second day after treatment; 1 on the third day; 2 on the fourth day; 3 on the fifth day: 1 on the sixth day; 1 on the seventh day; 1 on the eleventh day. In 24, the treatment was commenced during the second week: of these, 1 was free from fever on the second day after treatment; 2 on the third day; 5 on the fourth day; 7 on the fifth day; 5 on the sixth day; 2 on the seventh day; 1 on the eighth day; 2 on the ninth day; 1 on the twelfth day. In 26, the length of time that the fever had previously existed was not ascertained: of these, 5 were free from fever on the second day after treatment; 6 on the third day; 3 on the fourth day; 4 on the fifth day; 3 on the seventh day; 1 on the eighth day; 3 on the ninth day; 1 on the twelfth day.

The quinine was also given in 27 complicated cases, the chest being involved in 22, the abdomen in 2, and in 3 both the abdomen and chest were affected. Of the 22 cases where the chest was involved (the affection being, as before remarked, generally sub-acute bronchitis), 15 were treated during the first week: of these, 1 was free from fever on the third day after treatment; 1 on the fourth day; 2 on the fifth day; 4 on the sixth day; 2 on

the eighth day; 1 on the ninth day; 2 on the tenth day; 1 on the eleventh day; and 1 on the twelfth day. In 7 the treatment was commenced during the second week: of these, 2 were free from fever on the third day; 2 on the fourth day; 1 on the sixth day; one on the seventh day; 1 on the tenth day.

The remedy employed in the above complication, in conjunction with the quinine, was a large mustard jacket placed round the whole of the chest both back and front, applied twice or thrice daily, and left on as long as the patient could bear it.

Two cases occurred with abdominal complication: of these, 1 was admitted on the ninth day of the fever, and recovered on the sixth of treatment; the other was admitted on the fifth day of fever, and recovered on the seventh day of treatment.

Three cases occurred with abdominal and chest affections: of these, 2 were admitted on the fifth day of the disease, and were free from fever on the fifth day of treatment; 1 admitted on the eighth day of the fever was free from it on the tenth.

Thirteen cases in which the quinine was given proved fatal: of these 5 died within forty-eight hours after admission. Of the remaining eight, one was admitted on the eighth day of fever, and died on the eighth of treatment. One was admitted on the fifth day of fever, and died on the sixth of treatment: this man had persistent hiccough, congestion of lungs, and had had a severe attack of fever seven months before. One was admitted on the seventh day of fever, and died on the tenth of treatment: this patient had been allowed nothing but barley-water previous to admission; tubercles in the right lung. One was admitted on the fourteenth day of fever, and died on the fifth of treatment: the quinine seemed to produce no effects. One was admitted on the ninth day of fever, and died on the sixth of treatment: this patient had two kinds of spots, the one disappearing, the other unaffected, by pressure; had been a hard drinker. One was admitted on the fifth day of fever, and died on the eighth of treatment: a woman, æt. 76; this was the only fatal case where the pulse was reduced below 100. One was admitted on the fourteenth day of fever, and died on the fourth of treatment: the quinine did no good. One was admitted on the eighth day of fever, and died on the third of treatment: had involuntary motions when admitted.

The effect of the quinine on the pulse is, in favorable cases, sometimes very remarkable: in one case it fell from 104 to 72 in twenty-four hours; in another, from 140 to 84 in seventy-six hours; but generally speaking the reduction is gradual and steady. In cases which terminated fatally, the quinine, with one exception never reduced the pulse below 100; it sometimes fell from 148 to 124, from 112 to 108, from 140 to 114, but not below 100. None of the fatal cases were under treatment before the fifth day. In complicated cases the effect on the pulse is less marked than in those which are free from complication.

Art. 5.—*Quinine and Opium in the Cold Stage of Paroxysmal Fevers.* (Anonymous.)

(*Southern Journal of Medical and Physiological Science*, May, 1853.)

"We have long (writes the anonymous author) thought it a desideratum in practice to find out some mode of treatment by which the practitioner may be enabled, when summoned to a case of remittent fever, *during the cold stage*, to cut short the paroxysm—to extinguish

the intense febrile reaction, which usually succeeds the cold stages of our summer and autumnal diseases. When called upon to visit a patient, and we find him shivering with a chill—with blue lips and fingers—goose-flesh, shrunken surface—quick, small, feeble pulse—more or less nausea—great thirst—and, in a word, labouring under the usual distressing symptoms of the cold stage of fever, we usually content ourselves with warm foot-baths, tepid drinks, &c.; but these domestic remedies serve only to hasten and augment the reaction; they do not even abridge the febrile paroxysm which must succeed the chill.

We are about to recommend measures which will meet the indications so much desired in these cases, such as we have frequently tested in hospital, and sometimes in private practice. Mac Intosh practiced bloodletting in the cold stage of fever; but if this treatment proved beneficial in some cases, it operated injuriously in others; and thus, by common consent, venesection in the cold stage of fever has been abandoned in the United States, as far as we know.

Full doses of quinine and opium, given in the midst of the cold or shivering stage of fever, will be found both safe and efficacious in the large majority of cases. It puts a stop to the cold or chilly stage, increases the fulness, while it diminishes the frequency of the pulse, allays, as by enchantment, the violent neuralgic pains with which the head, back, limbs, &c., of the patient are tortured, equalises the circulation, promotes free perspiration, and rarely fails to extinguish the intense febrile reaction which, without the interposition of our art, rarely fails to succeed the cold stage of our autumnal fevers. Opium and quinine, thus administered, seem to restrain the violent action of the heart and arteries, the former of which is curbed, so to speak, by the combination, and held within its normal force and frequency. The patient passes at once from the chill or chilly, into the sweating stage—characterised by a full, soft and regular pulse, a warm, moist and relaxed suface, absence of thirst, headache, restlessness, and the usual concomitants of intense febricity. He exchanges great suffering, pains and uneasiness, for sweet and refreshing slumbers, for the most part, from which he awakens at the end of a few hours, perfectly delighted with himself and his physician.

By this treatment we arrest the paroxysm more certainly than if we had administered the quinine during the apyrexia; the series of morbid phenomena, by which a paroxysm of intermittent fever is characterised, is broken up; and the quinine and opium appear to arrest the disease definitively, by extinguishing the germ of morbid action. The dose, in the instances recommended, should be from twenty to twenty-five grains of the sulphate of quinine, and from two to four grains of opium, in combination; it may be repeated in severe cases, but in diminished doses, after the first three or four hours.

Quinine and opium, given at the moment advised, are less likely to disturb the encephalon than might be suspected by those who have never ventured to try it in the cold stage of fever, to adopt a misnomer. Treated after the method above recommended, the paroxysm is broken up, and will rarely recur the second time, although we may withhold the further use of remedies. Under our plan, convalescence becomes speedily established, the patient rapidly recovering his appe-

tite and strength. Many, and we include ourselves, venture to administer the quinine and opium during the height of the febrile excitement, with the most beneficial effects; but it must strike any reflecting mind, that if opium and quinine, given during the stage of exacerbation, exercises a sedative influence over the heart and arteries, how much more rational and easy to keep down such febrile excitement, by interposing our remedies before all the links in the chain of morbid causes which constitute a febrile paroxysm, shall become firmly united.

Art. 6.—*On Quinine and Tartaric Acid in Intermittent Fevers.* By M. Bartella and Dr. Bastille.

(*Medico-Chir. Rev.*, Oct. 1853.)

"Two years since, M. Bartella brought forward his plan for the more economical treatment of ague by administering equal parts of sulphate of quinine and tartaric acid. He now ('Bull. de Thérapeutique,' tom. xlv, p. 49) reinforces his former statement by new facts, having treated altogether 208 cases in this way, 196 of these being simple intermittents, and 12 pernicious fevers.

"Dr. Bastille, who has been pursuing the same experiments, states, as his conclusions, ('Gaz. des Hôp.,' No. 87,)—1, That sulphate of quinine, given with equal parts of tartaric acid, is more active than the simple sulphate; 2, As a general rule, half the quantity of quinine so combined suffices; but in some descriptions of fever, as in the pernicious ones of Italy, larger doses are required."

Art. 7.—*A New Remedy in Yellow Fever.* By Mr. J. Riddell.

(*Charlestown Med. Jour. and Rev.*, July, 1853.)

The following passage, which requires some notice as having been authenticated by Dr. Gavin Milroy, is copied into the above-named journal from the 'Western Lancet.' The Bebena appears to be one of the Verbenaceæ.

Mr. J. Riddell, acting consul-general at Carraccas, has communicated to Dr. Hector Gavin, and Dr. Gavin has imparted to the medical authorities of the West India Islands, "that an old woman, named Marquita Orfila, has discovered a perfect remedy for the black vomit and yellow fever, by means of which several persons have been completely cured, after a consultation of doctors had declared that the cases were quite hopeless, and that the patient must die in a few hours. The remedy is the juice of the pounded leaves of the *Berbena*, given in small doses three times a day, and injections of the same every two hours, until the bowels are emptied. The Berbena is a wild shrub, to be found growing almost everywhere, and particularly in low and moist grounds. All our doctors have adopted its use, and now few or none die of those late fearful diseases."

Art. 8.—*On Scarlet Fever.* By Hamilton Roe, M.D., Senior Physician to the Westminster Hospital.

(*Lancet*, March 26, 1853.)

These remarks formed the substance of a clinical lecture. They are given in Dr. Roe's own words:

The case I shall first notice is that of Samuel Stamford, a boy of thirteen years of age, who was admitted into King William ward on the 16th of October, and is now fast convalescing. He was a blear-eyed, scrofulous-looking boy, but not weak, and resided at Little Peter Street, an unhealthy locality in this neighbourhood. There was no evidence of his having had communication with any one similarly affected. He said he had been seized with fever and sore-throat three days before his admission, and from that time had been gradually getting worse. He was covered with a scarlet eruption, most marked over the abdomen, and complained of great difficulty of swallowing from the state of his throat, which was red and swollen. His tongue was coated at the base, red at its tip, and on its edges; his respiration was easy; pulse quick; heart's action accelerated, but unaccompanied by any unusual sounds; his skin was hot; his bowels had not been opened for three days; his breath was offensive; his urine high-coloured; his senses were dull, and he lay without taking notice of any one.

Now, it must be evident to you, that before we can form a correct notion of the treatment that is likely to prove useful for any disease, we must have ascertained its causes, and its consequences or terminations; for, unless we have done this, we cannot know what is to be effected, and what prevented; and, therefore, we have nothing to guide us in selecting remedies. The opinion now generally entertained by the medical profession respecting scarlet fever, is, that in common with typhus fever, smallpox, cholera, and other epidemics, it is caused by the introduction of some poison into the system, from inhaling air in which miasma is suspended, or some noxious gas mixed; that when the poison is got rid of pretty soon, recovery takes place; but when it is not, that it induces disease of one or more vital organs, which often destroys life. The kidneys, bronchi, and lungs, are those most frequently affected, and, therefore, scarlet fever may be said to terminate in Bright's kidney, bronchitis, or pneumonia. Rheumatism also has been observed, by Dr. Golding Bird, to come on occasionally after it.

The first indication of treatment when a poison has either been taken or entered the system is, to give an antidote for it, and this we should do in all cases of epidemic disease, if we could; but we are not acquainted with any medicine which possesses the power of destroying an animal poison within the body; we are, therefore, obliged to direct our efforts towards counteracting its effects, and assisting the system to throw it off through some of its emunctories. The symptoms or effects which are usually first observed are, chilliness, rigors, oppressed circulation, and a torpid and depressed state of the nervous system, which sometimes proves speedily fatal. I have known scarlet fever to cause death within twenty-four hours after the eruption has appeared, and smallpox has frequently done the same. To counteract the effects just enumerated, it is considered by many medical practitioners advisable to give emetics as early as possible after the disease has set in, as having a tendency to cool and soften the skin, and to induce it to perspire; they also divert the blood from the internal organs to the surface, and help the system to rid itself of the poison. The medicines usually next given are intended to fulfil one of

the following indications according to the view of the practitioner—to increase some of the natural secretions, in the hope of their carrying off the poison—to strengthen and support the system under the efforts it will make to get rid of it—or to destroy its power by chemical action. Dr. Hamilton, of Edinburgh, advised purgatives with the first view; carbonate of ammonia, bark, and stimulants have been recommended by others with the second; hydrochloric acid and chlorine, with gentle aperients, have long been used in this hospital and elsewhere with the third view. The chlorine mixture is made by mixing ten grains of chlorate of potash with one drachm of hydrochloric acid, and when the chlorine is all evolved, adding water to it by degrees, until it is taken up. Diluents and liquid nutriment are also given freely, and, under this mode of treatment, a large majority of patients affected with epidemic diseases recover. Scarlet fever is to be treated on similar principles, for we have no antidote to its poison; belladonna has been asserted to be one, and a prophylactic also against it, but on no better grounds than that it causes the same symptoms and appearances; you will, therefore, not be surprised to hear that its frequent failures prove that it does not possess the power of either one or the other.

In Stamford's case these principles of treatment were partially carried out. An emetic of sulphate of zinc was first given him, then a mixture of antimony and ipecacuanha. He was directed to drink freely of warm rennet-whey, which, as you know, contains much of the nutritive matter of milk, and is readily taken up by the veins, and absorbed without requiring much effort on the part of the stomach to digest it, and a diet of weak beef-tea and veal broth was ordered for him. This plan of treatment had been commenced when I first saw him, and as he was progressing favorably I did not alter it. A piece of flannel, soaked in a saturated solution of camphor in spirits of wine,—a valuable stimulant by the way,—was put round his throat, with very good effect, according to the suggestion of Mr. George, of Kensington, who has lately written a very interesting book on its utility in smallpox. On the 23d, an infusion of cinchona was substituted for the former medicine, and he left the hospital well on the 2d of November. His urine was examined several times during his illness, but on no occasion did it exhibit a trace of albumen.

The next case was that of Clara Glover, aged five years and a half, who was admitted into Adelaide ward on the 21st of October. She resided in a house in Lower Gardiner-street, which was reported to have been examined and pronounced healthy a few days before by the Sanitary Commission. Her parents had seven children; two of them were lying dead at home when she was brought in, and the other four were sickening, in all probability with the same disease under which she was herself labouring. She looked to be a strong child, and was said to have been very well until the day before, when she began to be very feverish. On the morning of the 21st a scarlet eruption appeared all over her body; her throat was very sore, skin hot, pulse quick, respiration natural, and tongue very red, but she had no alarming or unusual symptom. One grain of tartar-emetic was directed to be given immediately, and afterwards the chlorine mixture, with a gentle aperient; rennet-whey and broth were her drink and diet. Under this treatment she went on very well until the 23d, when she appeared languid, her pulse feeble, her eyes sunken, and her colour of a somewhat leaden hue, and the eruption paler than it had been; but she had no cough, movement of the alæ nasi, difficulty of breathing, nor other symptom to show that the lungs were becoming diseased. Under the impression that she was sinking, and wanted support, wine was given her, with arrow-root, and her throat was sponged internally with a stimulating gargle. On the next day (Sunday) she was still more depressed when I visited

her. I gave her immediately some warm wine; but after swallowing a few teaspoonfuls, apparently with pleasure, she turned her eyes up as if going to have a fit, and expired. That was the fourth day after the eruption had appeared. Many of the gentlemen now present saw the post-mortem examination. No doubt you noticed that the arytenoid cartilages were in such close apposition that air could not pass between them, and therefore you must feel convinced that this child died from suffocation; the trachea and bronchi were healthy, but here and there throughout the lungs were portions congested with blood; the head was not examined; the heart and kidneys were natural.

The important question in reference to other cases in which similar symptoms may hereafter be observed is,—Had the state of the lungs been superinduced by the narrowing of the opening into the trachea, or had that been caused by the congestion of the lungs? On the former supposition, tracheotomy might have saved this child's life; on the latter, that operation would have been useless, and active measures to relieve the lungs might have been attended with a similar result. The progress and termination of the next case show which of the diseased states was probably the antecedent one, and also what mode of treatment was most likely to be successful.

Henry Walsh, aged eleven years, was admitted into King William ward, from Yalding, early in September, suffering from great difficulty of breathing. His countenance was blue; his respiration loud and wheezing; his chest moved very little during an inspiration, and sounded tympanitic generally, but in some parts a degree of dulness was perceived; loud râles of various kind were heard over the chest; his heart acted feebly, but its sounds were not unnatural. It was stated that he had had the affection of his breathing from childhood; nauseating medicines were given him, with some relief, and he went on tolerably well until the 20th of October, when he became feverish, skin hot, throat very sore, pulse much accelerated, but his respiration was less difficult than usual. It was then observed that he was covered with a scarlet eruption, and that his tongue was very red; and as a boy in the same ward had just had scarlet fever, it was probable that he had taken that disease from him. An emetic was given him immediately; this was followed by the chlorine mixture; warm whey was his drink, and his diet was beef-tea. He went on favorably until the 25th, when he was observed to have the peculiar look which Clara Glover had had when she changed for the worse,—a faint expression, sunken eye, and similar colour of his skin; his pulse was very feeble, like hers, and his skin cool, but there was no indication of any increased difficulty of breathing, nor any material or marked physical symptom to show that the state of the lungs was worse than it had previously been; but the similarity of his appearance to that of the child in whom the lungs had been found congested, induced me to believe that he was labouring under a similar affection. Under this persuasion, I gave him one grain of tartar-emetic every four hours, and directed that wine or brandy should be administered, lest that medicine should lower him too much. Next day (Oct. 26) he was visibly better; the sunken eye and depressed expression of the countenance had disappeared; his nervous energy was increased; his pulse was stronger and skin warmer; his colour was bluish. I then directed the tartar-emetic to be given only when his breathing became difficult: he took it twice in the next twenty-four hours. This plan of treatment was continued for a few days. On the 1st of November he appeared to be suffering less, and in every way better than he had been on his admission; the wheezing not so loud, and the râles fainter; and he is now as well as usual. His urine had not exhibited any traces of albumen throughout the course of his disease.

The similarity of this boy's general appearance and symptoms, on the 25th,

to Clara Glover's, on the 23d—the days on which they respectively became worse—made it more than probable that the same cause had produced them. That this cause was congestion of the lungs was made all but certain by the detection of that morbid condition at the post-mortem examination of the girl; by the beneficial action on the boy of medicine known to be specially useful in such cases; by the absence, in both cases, of stridulous breathing, and the other characteristic signs which invariably accompany contraction of the orifice of the trachea; and, in the girl's case, of any long-standing alteration of structure which could have caused sudden death. The state of the lungs, therefore, could not have been induced, in either case, by the approximation of the arytenoid cartilages, or any contraction of the opening into the air-passages, for no symptom of either was ever observed in the boy, nor, indeed, in the girl; it must therefore have been the antecedent affection.

In cases such as these tracheotomy could not have been useful, and the only measures likely to prove so must be such as would assist in the removal of the congestion, But you will naturally inquire why the diseased condition of the lungs was not detected at its commencement? The answer is, that there was no visible disturbance of the respiratory functions to attract our attention. Organic affections of the lungs are known to be amongst the sequelæ of scarlet fever, but are not expected to occur at the early stage of it; we were not, therefore, on the watch for them: for these reasons, we did not make, in the girl's case, that minute examination of her chest which would have been necessary to detect the slight degree of congestion which existed in her lungs, and which could not have caused death had there been no accompanying fever, and it was overlooked. In the boy's case, we were put on our guard by what we had detected in the girl, and consequently made a proper examination of his chest, discovered the state, and administered remedies, which, as you saw, restored him from an apparently dying condition. In typhus fever of a certain type, this form of congestion, unaccompanied by any difficulty of breathing complained of by the patient, or visible to the eye, is known to be a common occurrence; we are therefore always on the watch for the very first symptoms of it. But not so in scarlet fever, for death in the early stage of it,—that is, soon after the appearance of the eruption,—is supposed to be caused by the shock given to the system by a poison; if it occur at a later period of the same stage, but before the eruption has disappeared, it is usually attributed to the state of the throat and the depression of the vital powers, which are supposed to be the later effects of the same cause; and it is only after the complaint is over that organic disease of the kidneys, lungs, and bronchi, are believed to occur.

Now, the occurrence of these two cases has led me to suspect that many of those instances in which the state of the throat and debility are supposed to be causing death, it is congestion of the lungs that in reality is doing so, and they are merely its effects or consequences. To confirm or remove this suspicion I shall request all my medical friends who have the opportunity of seeing much scarlet fever amongst the poor, to examine the bodies of those who die of that disease—to note the alterations of structure they observe, and the stage at which the signs of their presence were first perceived; and until statistical inquiries have removed all doubts as to the cause of the peculiar symptoms observed in the last two cases, to try tartar-emetic whenever they present themselves. Meanwhile the lessons we have to learn are, that in the early stages of other fevers besides typhus, congestion of the lungs may take place, and that, owing to that diminished sensitiveness to the want of air which probably all fevers produce, such a condition may be unaccompanied by any consciousness of its existence on the part of the patient, or the characteristic

rational signs which are always observed when there is no specific fever to mask them; and therefore that in all fevers we should examine the lungs daily.

ART. 9.—*Facts relating to Scarlet Fever.* By B. W. RICHARDSON, Esq.

(*Assoc. Med. Journ.*, June 10, 1853.)

The following is an abstract of Mr. Richardson's paper:—The author commenced by stating, that he should confine himself to the consideration of matters of fact in relation to scarlet fever The *types of scarlet fever* had a brief notice. There could be no doubt that the disease showed a variety of types in individual cases; but in great numbers of cases such types became indistinct; and it would be much to the interests of science if medical men would cease to call the disease by different names, and would employ the one term, "scarlet fever," to express every form or shade of the disease. *The occurrence of scarlet fever at the different periods of life* came next under notice. A law might be laid down on this matter, viz., that up to the age of ten years, the liability to scarlet fever is very great; but that after ten, the liability rapidly decreases. A record of 402 cases from the report-books of the author and of three other gentlemen showed, that 310 of these cases occurred in children under ten years, and only 92 in the after-periods of life. The same law might also be shown by the Registrar-General's returns; and the attention of the Society was then directed to a table derived from these returns, in which it was illustrated, that, out of 31,744 deaths from scarlet fever, 21,469, or more than two thirds, occurred in patients under five years of age; 7756 at five years and under ten; 1755 at ten and under twenty years; 552 at twenty and under forty years; and only 212 in the after-periods of life. A per-centage table on the same subject was also exhibited. In reading over the various works on scarlet fever, the author had found more than one eminent writer (among others Withering) stating, that children under two years, and babes at the breast, were not subject to attacks of scarlet fever. This statement of time would describe a remarkable fact. It was not true, however, for in 212 cases of which he (Mr. Richardson) had notes, no less than 14 occurred in infants under two years of age. The returns of the Registrar-General indicated, that out of 12,902 deaths from scarlet fever in patients under five years of age, upwards of 7000 took place before the expiration of the second year. The same returns also showed, that in 3795 deaths from scarlet fever, 410 were in the first year of life; 1797 from the first to the third year; and 1588 from the third to the fifth year. These results were illustrated by tables. The greater prevalence of the disease in early life does not arise from any physiological peculiarity, but from the facts, that recurrence of the disease in the same person is contrary to the general rule, that most persons are subject to the influence of the disease, and that that influence is constantly present in a greater or less degree. The *occurrence of scarlet fever in the two sexes* was also discussed by the author. Up to the present time, every writer on the subject had asserted that the disease was more prevalent among females

than males. The reports of the Registrar-General overturned this opinion, and showed that scarlet fever made no selection in the sexes, but attacked more males or females according to the relative number of males or females susceptible to its influence in any district where it might be epidemical. Three extensive tables were employed by the author for elucidating this point. The manner in which the seasons influence scarlet fever was referred to at considerable length; and it was shown, by reference to the general observations of numerous authors, and by extensive statistical data, that the disease was most prevalent in the last three months of the year; next so, in the months of July, August, and September; next so, in January, February, and March; and least so, in May, April, and June. Mr. Richardson here took occasion to observe on the false statements which are apt to occur from making statistical tables out of small numbers of cases.

The Recurrence of Scarlet Fever.—That scarlet fever might occur twice in the same person there could be no doubt; and, in addition to the written evidence brought forward in support of this fact, the author gave instances in which he had seen the disease recur, and stated, that he himself had suffered from it twice severely, and a third time mildly. He believed, however, that recurrence was rare, and that the disease never proved fatal in second attacks.

The Mortality of Scarlet Fever.—This question, as far as it related to age, sex, and season, has been discussed already, incidentally; but there yet remained to be considered the mortality of the disease in various localities, and its relative mortality to other epidemic diseases. As regarded locality, the author was only able, he said, to speak of the disease as it occurred in this country; and he then went on to show, by tabular reference, that nearly twice as many deaths occur in towns as in rural districts; and also that the disease did not fall on the whole country at once with an equal degree of severity, but was at similar periods absent to a great degree in one locality and extensively present in another. The subject of the relative mortality of scarlet fever possessed much interest; and the author had taken great pains to illustrate it copiously by tables, derived from the Registrar-General's Reports. In one of these tables, the calculations were based on not less than 462,227 cases of death from seven epidemical diseases; and the results in all showed that scarlet fever was second only in its rate of mortality to typhus fever, as an ordinary epidemical disorder. After these observations on the mortality of scarlet fever, Mr. Richardson briefly summed up the various conclusions to which he had been led by his investigations, and finished by remarking, that if those conclusions exhibited differences from the usual opinions held on the subject, such differences arose solely out of the mode of inquiry that had been pursued; while, on the contrary, if it should be thought that some matters well known already were restated, those restatements had been based on particular evidence instead of general observation, and that—

> "Truth can never be confirmed enough,
> Though doubts did ever sleep."

Art. 10.—*A Case of simultaneous Variola and Vaccinia.* By M. A. Foucart.

(*Rév. Méd.-Chir. de Paris*, July, 1853.)

The patient, a healthy infant of seven months, had been vaccinated on the 14th of May, ult., in the Mairie of the 11th arondissement of Paris. It continued well until the 19th, when fever, with sickness and considerable heat of skin became developed. These symptoms went on augmenting until the 23d, when small pimples, as of approaching variola, made their appearance. On the day following, there could be no doubt as to the nature of the disease. The variola went through its usual course, the fever subsiding on the appearance of the eruption, and the crusts having dried up, and the patient being quite well on the 10th of June. The vaccine vesicles were perfectly developed on the 22d, and they dried up, *pari passu*, with the smallpox pustules.

Art. 11.—*On Small-pox and Vaccination; an Analytical Examination of all the Cases admitted, during Sixteen Years, at the Smallpox and Vaccine Hospital, London, with a view to illustrate the Protective Influence of Vaccination.* By F. Marson, Resident Surgeon at the Smallpox Hospital.

(*Lancet*, July 16, 1853.)

In a recent communication to the Medical and Chirurgical Society the author stated that during the period comprised within this analysis smallpox had been epidemic four times—in 1838, 1844, 1848, 1851; and rather more than half of the patients admitted into the hospital had been previously vaccinated. Much anxiety about the degree of security afforded by vaccination had begun to be felt, and the author thought the profession would be interested, and much useful information elicited, by classifying and arranging the patients admitted during the above-named period. The analysis referred principally to the following points:

I. Natural smallpox.
II. Smallpox after smallpox.
  a. After natural smallpox.
  b. After inoculation.
III. Smallpox after vaccination.
  a. Number of cicatrices.
  b. Character of cicatrices.
  c. Vaccinated, but without cicatrices.
IV. Febrile eruptive diseases mistaken for small-pox.

A remarkable difference was observed between the vaccinated and unvaccinated patients, and also between the vaccinated cases themselves—some patients having the smallpox in a mild form, wholly devoid of danger, whilst others had it in great severity, scarcely if at all lessened by the previous vaccination. Under these circumstances, the

author thought that the causes of this remarkable difference might be sought for among the antecedents in respect to the vaccination of each individual admitted, with a view to explain the extreme mildness of some cases—the danger, unmitigated course, and even death of others. Smallpox in the unprotected remains to this day as virulent as it ever was. Vaccination, when performed in infancy, affords almost complete security against the fatality of smallpox up to the period of puberty; and the general experience of the Smallpox Hospital shows that smallpox did not usually occur after vaccination until several years had elapsed. The most trustworthy evidence of the perfection of vaccination was to be obtained from the cicatrices, and this evidence he would be able to show was a very good guide to the general amount of protection conferred by vaccination.

The analytical series consisted of six tables. The first table showed the number of patients admitted at the hospital in each year, distinguishing males from females, whether vaccinated or otherwise, and gave the outline of the disease under which each was suffering; it included 185 cases of febrile diseases, principally eruptive but not variolous, and it furnished the result of the whole, with the rate per cent. of the mortality. The second table gave an analysis of all the cases of smallpox, 5797, classed under nine different headings, the form of the disease in each case, and the result, with the rate per cent. of mortality under each division. He there gave the ages of the unprotected patients, and the rate per cent. of mortality calculated at different periods of life, for every five years up to thirty, and even ten years afterwards. The fourth table exhibited, separately, the leading particulars of 3094 cases of smallpox after vaccination, showing, from a careful examination of each patient, the number and character of the vaccine cicatrices, the form of the variolous disease, and the result, with the rate per cent. of the mortality from smallpox, after deducting the cases of superadded disease. It also showed the rate of mortality from smallpox in patients having one vaccine cicatrix, particularising whether good or indifferent, and the average. The fifth table showed, in quinquennial periods, the ages of the vaccinated patients when attacked by smallpox, when they were vaccinated, and the rate of mortality. The sixth table stated, in periods of five years, the ages of the patients at the time they were vaccinated, who had subsequently been admitted with smallpox into the Smallpox Hospital. Observations on the results accompanied each table; and in relation to Table IV, it appeared that 3094 patients with smallpox reported themselves to have been vaccinated at some period of their lives. 1357 had one vaccine cicatrix; and of these four and a quarter per cent. died with a good cicatrix, and twelve per cent. with an indifferent cicatrix: mean, seven and a half per cent. 888 had two cicatrices; two and a half per cent. died with good cicatrices, seven and a quarter with indifferent cicatrices: mean mortality, four per cent. and a fraction. 274 patients had three cicatrices: average mortality, one and three-quarters. 268 patients had four cicatrices; and three died with good cicatrices under one per cent.; with indifferent cicatrices none, the average being only three fourths of one per cent. The author described a good vaccine cicatrix as distinct, foveated, dotted or in-

dented, in some instances radiated, and having a well, or tolerably well, defined edge. An indifferent cicatrix as indistinct, smooth, without indentation, and with an irregular and well-defined edge. The author's opportunities of examining, with regard to previous vaccination, the foreigners admitted with smallpox at the hospital, and comparing them with each other, and with the same class of persons in this country, had led him to the conclusion, that vaccination was performed in the best manner generally by the Danes, Swedes, Norwegians, and Germans, judging them by the standard shown in Table IV, to afford the most efficient security. Then came the Italians; and from the few he had seen, the Spaniards; then the Scotch; then the Irish; and, lastly, the English and French. He was most anxious to draw the attention of his professional brethren to the above fact. There must exist some grave and lamentable evils (more especially affecting the humbler classes) connected with the circumstances under which vaccination in country districts was performed. The details recorded in this paper should urge our provincial brethren, whose position and ability gave them influence, to lend their aid to trace the evil to its root; for there could be no justifiable reason why the rural inhabitants of England and Wales should be far less well vaccinated than were the rural inhabitants of Denmark, Sweden, and Prussia. The mortality, severe as it was between the indifferently and the well vaccinated, was not the only evil result to be regretted of bad vaccination. Proportionate to the mortality was the severity of the disease, and to those who escaped death there was damaged health, disfigurement for life perhaps, and the discredit brought on vaccination which was in no degree due to it intrinsically, but was owing solely to the want of proper knowledge of the subject, and of the necessary care with which the operation should be performed. Great judgment and caution should be exercised in the selection of vaccine lymph, for in this lay one of the principal causes of failure in vaccination. Lymph for use was in its best state on the seventh day of the progress of the vesicle, the day week from the vaccination; and the author described the character of the vesicle and the indications of the stage when it was most favorable for the collection of the lymph, and some very valuable and instructive observations followed on the mode of conveying lymph, the mode of vaccinating, the mode of preserving lymph, and on re-vaccination.

The author's conclusions from the foregoing facts and statements were—

1st. That natural smallpox destroyed about one third of all whom it attacked.

2d. That smallpox after smallpox was of comparatively rare occurrence; that a second attack of natural smallpox was rare, but not often fatal, and that protection seemed to be the law. That after inoculated smallpox an attack of smallpox had more frequently led to fatal results; but there is reason to presume that the virus used for inoculation, like a great deal of the lymph used at the present day for vaccination, was often taken at too advanced a period of the disease, and thus did not afford the full measure of protection it was capable of affording if taken at a proper time.

3d. That vaccination performed in infancy afforded almost complete protection against the fatality of smallpox to the period of puberty; that a variety of circumstances conspired to make it almost impossible to ascertain exactly in what proportion to the vaccinated cases of smallpox subsequently occurred, or might occur, if all persons lived to an advanced age.

4th. That, as a matter of safety, it would be well for all persons who were vaccinated in infancy to be re-vaccinated at puberty; this measure being more especially requisite for those who were either indifferently or doubtfully vaccinated in infancy, and still more necessary for those who, though vaccinated, had no cicatrix remaining. Finally, as a matter of precaution, it would be desirable that all persons should be re-vaccinated on small-pox existing in the house where they were residing—a precaution, however, that will cease to be necessary to advise when all persons have the benefit of proper and efficient vaccination.

ART. 12.—*The Results of Revaccination, as observed in 257 cases.* By W. B. HERAPATH, M.D., Surgeon to St. Peter's Hospital, Bristol.

(*Assoc. Med. Journal*, April 15, 1853.)

Dr. Herapath arrived at the following results upon the occasion of an extensive revaccination amongst the children of two large public schools in Bristol—the Red Maid's School and Queen Elizabeth's Hospital. All the children had had smallpox or cowpox before admission.

1. That three cases revaccinated within seven years were not again susceptible to vaccine.

2. That vaccine, after the interval of from eight to seventeen years, does not prevent the reception of vaccine again, except in 22·174 per cent.

3. That the distinctness or imperfection of the vaccine cicatrix does not materially alter these results.

4. That variola does not prevent the formation of the vaccine vesicle, except in about 23·53 per cent.

5. That the occurrence of smallpox subsequently to vaccination does not destroy the susceptibility of the human system to again receive the vaccine poison, except in about 10 per cent.

6. That in all the previous cases, whenever the secondary vaccine vesicle assumed its perfect form, its subsequent history was the same as if the system had not previously laboured under vaccine variola or varioloid.

7. It is probable that the protective influence of vaccination has diminished in consequence of repeated transmission of the vaccine matter through the human body.

8. It is desirable that revaccination should be extensively followed, as one means of giving additional protection to the masses.

9. That when possible, the stock of vaccine should be renewed by going back to the original source.

ART. 13.—*Treatment of Acute Articular Rheumatism by Lemon Juice.* By HECTOR PELTIER, M.D., Physician to the Hôtel Dieu at Montreal.

(*Montreal Monthly Journal*, Aug. 1853.)

Dr Peltier thus speaks of his experience in this particular mode of treating acute articular rheumatism. "The cases I have had were genuine acute rheumatism, with all the characteristic symptoms present, but free from complication with any inflammation of the heart. I have had frequent opportunities of testing what I would call this invaluable, though simple mode of treatment in the Hôtel Dieu of Montreal, as well as in private practice, for during the last winter and spring, rheumatism raged extensively in this city. I know well that all species of remedies have been tried in rheumatism, but none have given me so much satisfaction as lemon juice."

ART. 14.—*Veratria in Acute Articular Rheumatism.* By MM. TROUSSEAU and PIEDAGNEL.

(*Assoc. Med. Journ.*, Sept. 2, 1853.)

According to the 'Union Médicale,' for April 2d, MM. Trousseau and Piedagnel, of Paris, have for some time employed veratria in the treatment of acute rheumatism. Its introduction appears to be due to M. Piedagnel, who states that, from the observation of numerous cases both in hospital and private practice, he finds that rheumatism is in this way generally cured in seven or eight days. He administers the veratrin in the form of pills, each containing five *milligrammes* (about 1-13th of a grain). Of these, one is taken on the first day, two on the second, three on the third, &c., up to the sixth day; it is rarely necessary to give seven pills. When the general and local symptoms have abated, which generally takes place on the fourth, fifth, or sixth day, the dose is maintained for two or three days at the point at which it had arrived, and is then gradually decreased daily as the symptoms disappear; and when, after four, five, or six days of convalescence, the cure seems perfect, the medicine is discontinued.

If, during the administration of this medicine, colic, diarrhœa, or vomiting appear, indicating intolerance of the medicine on the part of the gastro-intestinal mucous membrane, no larger dose must be given than can be taken without producing this effect.

A great recommendation of this medicine, according to M. Trousseau, is the lowness of its price, especially as compared with that of the disulphate of quinine.

The following is an outline of some cases treated on this plan by M. Trousseau, in the Hôtel Dieu:—

CASE 1.—M., æt. 17, had acute articular rheumatism, with endocarditis. All the joints of the upper and lower limbs were affected. Veratrin was administered: and the disease began to be subdued in three days, She left the hospital four weeks after admission; having remained there fifteen days after

the disappearance of all symptoms, in order that the permanency of the cure might be established.

Case 2.—B., æt. 37, a day-labourer, had had rheumatism several times. He was admitted on March 12, 1853, with acute articular rheumatism affecting most of the joints. The heart was unaffected. He took the veratrin in the manner described above, until March 22d, when M. Trousseau discontinued it, in consequence of the presence of gastro-intestinal disturbance. The next day, the rheumatism, which had nearly left him, began to return in several of the joints. M. Trousseau then ordered four pills to be taken; after which he rapidly recovered.

Two other instances are related, of acute articular rheumatism; in these veratrin was employed with similarly favorable results.

(c.) CHRONIC DISEASES.

Art. 15.—*Note on Tuberculosis.* By Prof. Virchow.

Verhandl. der Physic.-Med.-Gesel. in Wurzburg, Heft 2.

Professor Virchow produces the following short *résumé* of his opinions upon this subject apropos of a work on 'Tuberculosis,' by Dr. Groshaus, of Rotterdam.

1. Tuberculisation is not a specific exudation, but a special transformation—*tuberculosis metamorphosis*—of the natural tissues.

2. Tuberculous metamorphosis is akin to fatty degeneration, or to atheromatous, calcareous, or other degeneration, and not to inflammation, or to any living growth like cancer.

3. It affects all tissues indiscriminately.

4. It consists in the very opposite of nutrition, namely mortification.

5. The cells present in tubercle are of very various origin. They may be relics of epithelial cells, or of some other natural product; or they may be related to, or identical with, exudation cells, pus globules, or to and with the cells occurring in cancerous or sarcomatous growths, or in typhoid infiltrations.

6. Arising in this way, from a promiscuous metamorphosis of any tissue, tubercle has no constant and characteristic elements; but the most constant and characteristic are the *tuberculous corpuscles* into which the several cells (already mentioned) break up.

Art. 16.—*On Gallic Acid in Purpura Hæmorrhagica.* By T. P. J. Grantham, Esq.

(*Assoc. Med. Journ.*, Sept. 9, 1853.)

Mr. Grantham relates three cases in which this remedy proved to be very valuable.

Case 1.—Mr. E—, a farmer and miller, æt. 60, came under treatment on the 18th November, 1852. Two days previously, he had noticed a soreness of the tongue, and perceived that the saliva was bloody. The symptoms of purpura were well marked. The gums were spongy, and they bled freely.

The tongue and the buccal mucous membrane were dotted with purple fungoid excrescences, some of which were as large as split peas, and from them blood oozed. The breath was offensive, and the appetite was impaired. The urine contained a considerable quantity of blood. Petechiæ were scattered over the thoracic and dorsal regions; and there was a large ecchymosis on one arm, and another on one of the thighs. The gallic acid was administered in five grain doses every three hours, and two compound rhubarb pills were given at bedtime.

20th.—The purple excrescences had shrunken and ceased to bleed; the petechiæ and ecchymoses had faded; and the urine was free from blood.

30th.—The improvement had been sustained. He was quite well again. He said that the first dose of medicine seemed to do him good. Only four scruples were taken.

Case 2.—This was a more serious case, several days having elapsed from the first setting in of hæmorrhage from the nose before the patient came under my care. Master C—, æt. 16, a draper's apprentice, was seen by me on the 21st June, 1853. He was greatly exhausted and blanched from epistaxis, hæmoptysis, melæna, hæmaturia, petechiæ, and ecchymoses. He was immediately ordered to take gallic acid in doses of three grains every three hours, and subsequently in five grain doses every two hours. The pil. rhei comp. was given as an aperient. The treatment was followed by most marked benefit, and before a week had elapsed, all hæmorrhage had ceased.

July 5th.—A slight recurrence of epistaxis happened, owing to his having too soon resumed active exercise. But the bleeding was quickly checked by a few doses of the acid, and complete convalescence speedily followed.

Case 3.—H. B—, æt. 12, son of an agricultural labourer, after three weeks' illness from typhus, then prevalent in the village where he resided, was seized on the 16th August, 1853, with hæmorrhage from the nose, gums, and bowels. The tongue was dotted with purple spots, and the back sprinkled with numerous small petechiæ. The treatment adopted was the same as in the former cases.

On the 17th, hæmaturia was superadded to the other symptoms, which was very severe.

18th.—The hæmorrhage began to abate.

20th.—The spots on the tongue and the petechiæ had faded; the hæmorrhages had nearly stayed.

21st.—A severe return of epistaxis occurred, from picking his nose. This was followed by alarming prostration of strength. He was ordered to take the acid every hour, and to have his nose plugged.

22d.—All bleeding had ceased.

30th.—I found that there had been steady and daily improvement since last report.

31st.—He was convalescent.

This was a severe case, as the patient's strength had been so much reduced by a previous exhausting disease; and, accordingly, it was necessary to push the acid to a considerable extent.

In all the cases the dietetic and general management were carefully attended to.

Art. 17.—*Upon the different Kinds of Dropsy.* By Sir Henry Marsh.

(*Dublin Quarterly Journal of Medicine*, Aug. 1853.)

The following admirable remarks upon the different kinds of dropsy, occur in a paper headed 'Reflections on the Causes of Dropsy.' Sir Henry Marsh proceeds—

"It is now my purpose, that the subject of the hæmorrhages may be rendered more clear, to make a few general remarks upon the causes of the white blood hæmorrhages, or dropsies. To expose my views on this subject I shall speak of dropsy under three distinct heads: atonic dropsy, obstructive dropsy, inflammatory dropsy. There are few of the dropsies which we daily meet with in practice that will not find a befitting place under one or more of these heads.

By atonic dropsy I mean all these dropsical effusions which are the results of pre-existing morbid or febrile action,—of wasting and softening of the solids, of degeneration of the blood, and consequent atonicity of the vascular tissue.

By obstructive dropsy I would imply all those dropsies which result from organic disease of the heart, lungs, liver, spleen, &c., and from tumours and other morbid growths which mechanically obstruct the circulation,—such obstruction causing the blood to stagnate in and to distend the venous trunks and capillary system, so that they become surcharged, and are compelled, if I may so say, to seek relief by a serous extravasation. When I reach this part of my subject I shall have occasion to show that obstruction is frequently not the sole cause of the white blood extravasation,—that more than one cause is influential.

By inflammatory dropsy I mean all those dropsies, and they are many in number and variety, which owe their origin to serous inflammation. This most important branch of my subject will require hereafter to be fully explored.*

The red-blood hæmorrhages, as I have elsewhere noted, are naturally and practically divisible into the passive and the active. No two varieties of the same disease can be more diverse in causality and treatment—when the cases are well marked—than are the active and the passive red blood hæmorrhages. The same observation is strictly applicable to the white blood hæmorrhages or dropsies. The atonic hydropic effusions represent the passive red hæmorrhages; the inflammatory, the active:—the parallel is perfect. Between the passive and active dropsies there are some remarkable discrepancies which may just be glanced at. In the passive or atonic the effusion takes place usually towards the close of prolonged chronic diseases,—it is one of the latest and most fatal indications: whereas in the active or inflammatory, serous extravasation is often synchronous with the first signs of morbid action. This is particularly remarkable in the anasarca of albuminuria.†

* Many of those dropsies to which the epithet encysted is by some writers applied, will find a place under this head.

† I use the word "albuminuria" because, whilst it points to a specific disease, it implies not a theory, but a fact.

In the passive or atonic the extravasation is generally first perceived in the most depending parts, commencing slightly and gradually, ascending from below upwards, invading the infracutaneous serous tissue, and ultimately the serous tissue of the cavities. But such is not ordinarily the course of active dropsy.

There is another very remarkable difference between these distinct varieties, viz., that which relates to the density of the extravasated fluid. In the passive or atonic dropsy it is, with not many exceptions, exceedingly thin and fluid; it consists, in fact, of the thinnest serosity, —only the most watery parts of the blood are exhaled. A proof of this is derivable from the slight degree of pressure needful to produce a pitting or indentation, and the rapidity with which the pitting or dimple is obliterated, and the fluid replaced; and in extreme cases, the tranparency of the skin shows the fluidity and clearness of the subjacent extravasation; whereas generally in acute anasarca the effused fluid is more opaque, dense, firm, and resisting; a heavier pressure is required to produce a dimple; the dimple or pit is more slowly effaced. In some cases the fluid productive of anasarca is so thick and glutinous, that it requires much force to displace it, and, being displaced, very slowly is the smoothness of the skin restored. So great is the density sometimes, that even in those parts of the body where the cuticle and cutis are thinnest and softest, scarcely any amount of pressure can cause an impression; and thus we have presented to us that which I shall have occasion to dwell upon hereafter, viz., the anasarca dura,—a very interesting variety of anasarca. It belongs to the inflammatory section of dropsical effusions, and shall there be treated of. There results from the density and tenacity of the effused fluid another and conclusive test, viz., acupuncture. In the passive dropsy the tenuity of the fluid enables it to escape through the punctures freely and copiously, and in a stream. In the active, it escapes slowly and unwillingly, or, in some cases, not at all; consequently these are cases in which acupuncture is absolutely fruitless.

Such are, in a general way, some of the signs which in well-marked cases distinguish the active and passive varieties of dropsy.

Between the extremes of the thinnest serosity and the densest white blood exudations, the gradations are numberless, and often imperceptible; they pass insensibly from the one into the other. In all animated nature, when extremes approach, the lines of demarcation are oftentimes inappreciable. This, in disease, is as true as in the various kingdoms of organised nature; and therefore it is necessary, in the study of disease, to arrive at just conclusions by the contemplation of clear, distinct, and well-defined cases.

There is another distinction between active and passive dropsies which just occurs to my mind. In passive dropsies, the effused fluid is, with few exceptions, unmingled with the red corpuscles of the blood; they are rarely suffered to escape. In active or inflammatory exudations, the admixture of red corpuscles is of far more frequent occurrence.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A.) CONCERNING THE NERVOUS SYSTEM.

ART. 18.—*On some unrecognised Forms of Mental Disorder.* By J. WINSLOW, M.D. D.C.L.

(*Lancet*, Oct. 15, 1853.)

In this paper Dr. Winslow wishes to direct the attention to some complicated, varied, and often obscure affections of the nervous system disordering the mind. The morbid states to which he referred might be viewed as anomalous and eccentric deviations from certain predetermined cerebral and psychological conditions. He wished to avoid the discussion of the question—what constitutes insanity, and to confine the attention of the Society to those abnormal phases of the mind in which the patient may be said to be mentally disordered, but not, in the proper acceptation of the term, insane. Dr. Winslow would restrict the phrase "insanity" to those deviations from mental health accompanied by positive aberrations of the ideas, conjoined with lesions of the volition, clearly justifying the exercise of moral restraint, and to those derangements of the intellect which authorise us in bringing those so affected under the protective influence of the law. He was anxious to confine attention to those cases where the mind might be said to be pathologically disordered, but not legally insane, and to direct the notice of the profession to a large class of disordered phases of the intellect floating upon the surface of society, which had not hitherto been sufficiently recognised as the effect of certain morbid cerebral conditions, bringing those so affected within the reach of therapeutic and curative treatment. The disorders to which Dr. Winslow referred were confined principally to the passions, affections, propensities, and moral sense, influencing the conduct of those so affected. The attack often assumed the character of an exaggeration of some single passion, appetite, or emotion. This morbid cerebral state might exist without arresting medical attention, or demanding legal interference. These affections were generally insidious in their character, of slow growth, almost imperceptibly originating important changes in the delicate and highly organised vesicular nervous matter of the brain, and giving rise to morbid alterations in the manifestations of the passions and affections. As this form of mental disorder is known frequently to exhibit itself in either a perversion of the feelings, alienation of the affections, and erratic conduct, it engenders much concealed misery within the sacred circle of domestic life. The patient, whose morbid condition is not appreciated, may exhibit great cruelty, and commit acts of brutality towards those who have the strongest claims upon his love, kindness, and forbearance. The naturally gentle, truthful, retiring, and self-denying, become quarrelsome, cunning, and selfish; the diffident, bold; the modest, obscene; piety may degenerate into hypocrisy, or be exalted into fanaticism. Persons so affected mani-

fest all the characteristics of intemperance, both in thought and conduct; they are wayward and eccentric in every action, often giving rise to the suspicion that they are either drunk or mad. Occasionally the disorder exhibits itself in a want of veracity amounting to a positive lying disease. In these anomalous pathological conditions of the mind, what are termed the reasoning and reflective faculties remain intact, consequently the actual state of those disordered is not suspected, even by their most intimate associates, until the affection becomes apparent by the patient committing some overt act of insanity. A patient with a mind under the influence of positive disease has been known for a period to exercise great powers of self-control. He sits at the head of his own table, goes to the Stock Exchange, to his counting-house, and to his bank, and engages actively in his professional duties, without exhibiting evidence, very conclusive to others, of his actual morbid condition. He may be an unrecognised monomaniac, and acting under the terrible and despotic influence of one predominant, latent, and concealed morbid idea, bring ruin and desolation upon his once happy home; he may recklessly squander a fortune which has been only accumulated after years of anxious toil; he may become brutal, vicious, criminal, a drunkard, a suicide, as the result of an undoubtedly morbid state of the mind, and yet pass through life as a sane, rational, and healthy man. In actual practice, all the delicate and varied shades of such unrecognised and neglected mental alienations are met with. Persons so disordered exhibit violent antipathies, harbour unjust suspicions, affect singularity of dress, gait, and conversation, are easily excited, are subject to violent and ungovernable paroxysms of passion from the most trivial and insignificant causes, are lost to all sensibility and delicacy of sentiment, refinement of manner and conversation; are often obstinately and pertinaciously riveted to the most absurd dogmas; are litigious, and prone to controversy. This disorder may manifest itself in morbid imitations; in an inordinate vaulting and mad ambition; in an absorbing lust of praise; in an insane desire for notoriety; in a depressed, exalted, or vitiated state of the sexual appetite; in morbid views of Christianity; and is often associated with a profound anæsthesia of the moral sense. These sad affections are symptomatic, in many cases, of unobserved, and consequently neglected, cerebral disorder, either originating in the encephalon, or produced by sympathy with morbid processes existing in other organic tissues, closely connected with the great nervous centre. These conditions occasionally succeed violent febrile attacks, more or less involving the healthy action of the brain and nervous system, and are often known to be the sequelæ of injuries of the head inflicted either in early or advanced life. They are also, unhappily, seen in association with genius; and, as the biographies of Cowper, Burns, Byron, Johnson, and Pope establish, the best, the most exalted, and highly-gifted conditions of the mind do not escape unscathed. Dr. Winslow then cited the particulars of several deeply interesting cases, illustrative of each form of this class of unobserved mental alienation, occurring both in adults and in children, which have been brought under his own observation,—viz., to cases of morbid passionate excitement, caused either by severe bodily illness, or the effect of injuries to the brain; to in-

stances of brutality and cruelty clearly consequent upon physical cerebral disorder; to illustrations of long-continued concealed monomania occurring in real life, productive of such estrangements of the affection, and great irregularities of conduct, as well as to some singular examples, in which the whole moral character has been completely changed by blows inflicted upon the head. The author next referred to two other forms of unrecognised cerebral disorder manifesting themselves in attacks of oinomania, or insanity exhibiting itself in uncontrollable and inveterate habits of intemperance; and to cases of neglected suicidal insanity. He then directed the attention of the profession to the frightful amount of untreated mental depression, associated with an irresistible suicidal propensity, which had prevailed within the last twelve or eighteen months. In many cases it appeared, from the evidence adduced at the coroner's court, that the mental disorder has existed for weeks, and occasionally for months, without giving rise to the suspicion of the presence of a dangerous degree of cerebral mischief likely to lead to the commission of suicide. There are few morbid mental conditions, Dr. Winslow observed, so fatal in their results as these apparently trifling, evanescent, and occasionally fugitive attacks of cerebral irritation and mental depression. This state of the brain is fraught with great mischief, and is almost invariably associated with the suicidal impulse. Many a person, apparently rational and sane, has committed suicide under the overpowering and crushing influence of some latent and concealed delusion. "For six months," writes a patient, "I have never had the idea of suicide, night or day, out of my mind. Wheresoever I go an unseen demon pursues me, impelling me to the act of suicide. My wife, my friends, my children, observe my listlessness, my gloom, and my despondency; but they know nothing of the worm that is gnawing within." Is this not a type of a case more generally prevalent than we imagine? May we not say of this unhappy man, with a mind tortured and driven to despair by a terrible and concealed hallucination, urging him on to suicide as the only escape and relief from the acuteness of his misery,—

> "He hears a voice we cannot hear,
> Which says he must not stay;
> He sees a hand we cannot see,
> That beckons him away."

Dr. Winslow, after making some observations on the subject of neglected oinomania, and pointing out the necessity of recognising this as one form of cerebral disease, and as amenable to curative treatment, adverted to a phase of mental alienation, occupying, as he remarked, a kind of neutral ground between positive lunacy and the stage of incubation, accompanied by an intense consciousness of the presence of a morbid condition of mind. In this state, the patient knows that he is not as he should be, and prays earnestly for relief from his acute suffering. To a certain point the power of self-control is retained, and the case affords, to superficial observers, no positive symptoms of mental alienation. "Would to God," exclaimed a lady, who was distressingly conscious of her morbid state of thought—"Would to God

I were either mad and incoherent, or relieved of this agony of mind!" Whilst in this intermediate state, patients often ask the question, when describing their symptoms—"Is this madness, or am I insane?" Dr. Winslow then referred, at some length, to the characters of Hamlet and Lady Constance, and cited passages from Shakspeare, illustrative of this strange phase of morbid mind. He subsequently observed, that "he might be asked, (and the question naturally suggested itself to the mind, when considering anomalous cases, like these,) how can we accurately diagnose between such morbid conditions and those natural states of the passions, emotions, and appetites, which, fraught as they may be with mischief, cannot be viewed otherwise than as healthy manifestations? In all these cases it is often the sudden and prolonged departure from natural habits, states of feeling, phases of passion, that justify a suspicion of the existence of mental alienation. This disorder of the mind occasionally exhibits itself in a simple exaggeration of some one predominant passion or train of thought, and in these, as well as in other cases, the only safe standard to which we can appeal is the natural and ordinary character of the patient whose mind is the subject of investigation. A man may be brutal and yet be sane; he may be subject to violent passion, and be of sound mind; he may love to riot in scenes of licentiousness without justly exposing himself to the imputation of insanity; he may be guilty of cruel and inexcusable acts of improvidence, and yet not be a fit subject for a commission of lunacy; nevertheless, in many cases, all these symptoms constitute conclusive evidence of the existence of serious mental disorder. A naturally irritable man may be excited into a paroxysm of passion by circumstances, calculated to engender such a state of emotion; but the passion allied to insanity is often fanned into a flame by the most trifling and inadequate causes. Healthy passion generally subsides after the removal of the exciting cause, but such is not the case with morbid emotions. Apart from the susceptibility to passionate excitement and the presence of great irritability of temper, the observing eye of the physician will generally discover, in connexion with the case, other mental as well as physical variations from the natural and healthy condition of the mind and body, to assist him in arriving at a safe diagnosis. This morbid condition, whether exhibited in ungovernable passion, or alienation of affection, in perverted appetites, in irritability of conduct, in loss of all sense of right and wrong, is generally associated with restless days and sleepless nights, as well as with impairment of the general health. Every case, however, must be viewed in relation to its individual characteristics, and to itself as a standard, and not in reference to any *à priori* theory, or predetermined test.

ART. 19.—*Importance of the Early Detection of the Existence of Insanity.* From the Report of the Ohio Lunatic Asylum, (U.S.)

(*Psychological Journal*, July 1, 1853.)

Insanity often exists for months, and even for years, quite unsuspected by friends. The writer of these Reports has, at present,

two cases under treatment, in each of which no cross-examination could elicit from the relatives who accompanied the patients to the asylum, an admission that they had observed any aberration of mind for more than ten days in the one, and three weeks in the other; yet in each, he was before long put in possession of abundant evidence that insanity was of fifteen months' standing in the former, and upwards of three years' in the latter. Ignorant of the real duration of the disease, and of the influence of duration on the prospects of cure, the too sanguine friends of each flattered themselves that a few weeks of treatment would suffice to restore them to health. They are doomed to a bitter disappointment. In the one case, he saw no prospect of cure at all, in the other there is hope, but, at best, a very long period must elapse before recovery can take place. Now, had the subject of insanity been better understood by those who had the charge of these two persons, who were both young, and of uncommon intellectual powers, the writer is convinced that the disease might, in each case, have been nipped in the bud, and an incalculable amount of suffering to friends and loss to society might have been spared.

The existence or occurrence of any marked peculiarity of mental or moral manifestation, or of any sudden change of habits, especially if connected with hereditary predisposition, previous attacks, suppressed or excessive discharges—whether *natural*, as menstrual, lochial, or lacteal, or merely *habitual*, as from piles, ulcers, issues or setons—repelled eruptions, prolonged nursing, want of sleep, excessive nervous excitability, or very unstable character, should at once arouse the fears and vigilance of both physicians and friends. The claims of the community are of scarcely less weight than those of the family. For, whereas, in a large proportion of such cases, it is altogether practicable, by timely and appropriate moral and physical treatment, to prevent the development of confirmed insanity, individuals are thereby spared a vast amount of suffering, and the burden thrown on the state is proportionably diminished.

Nor should we overlook the claims of posterity. Unquestionably it is as much the duty of a man to bequeath mental and physical health to his children as wealth. But if he follow a vicious course of life, his children are apt to inherit the same tastes in an exaggerated degree; if the habitual and unrestrained indulgence of his appetites and passions leads to insanity, the sins of the father are likely to be visited on the offspring, to more than the third or fourth generation. Surely, then, the minister, the physician, and the friend, will not hesitate, by timely and well-timed warnings, by friendly counsels, and by all the copious resources of the art medical, to ward off the danger while yet the day is, to crush the seed ere yet the baneful plant shall germinate, and haply to make thousands yet unborn their debtors. Nor would the gratitude of contemporaries be unearned. The mortality of the community is more affected by the amount of insanity in it, and of *predisposition to insanity*, than is supposed. Prevention is better than cure, and therefore the writer has endeavoured to draw a more especial attention to that subject.

A word on *recurrence of insanity*. People cured of insanity are of course liable to another attack, like people cured of a pneumonia or an

intermittent, if again exposed to the action of the exciting causes; and yet, on returning home, the former are often permitted by their friends to resume at once the very practices which first made them insane; to attend enthusiastic, exciting, protracted religious and political meetings, keep late hours, labour too hard, expose themselves too much, indulge to excess in alcoholic drinks, strong coffee, tea, and tobacco. A judicious and friendly physician might, by his timely interference, often prevent the bad consequences which must otherwise ensue, by warning, threatening, counselling, if need be, coaxing, strengthening good resolutions, and *carefully repairing physical dilapidations*, for to these latter are often to be traced a recurrence to habits of indulgence and excess.

Art. 20.—*On Psychotherapeia.* By W. C. Dendy, Esq.

(*Medical Times and Gazette*, March 26, 1853.)

We quote the commencing passages as the psychological basis of the essay:—"When Plato wrote these words, '*Nec totum corpus* (*curabis*) *sine anima*,' he recorded a truth which few probably will deny, but the principle of which, in the practice of medicine, has been constantly blinked or set aside. This error has been committed, not only from deficient appreciation of the influence of mind, and especially that one of its faculties which we term volition, but also from a notion that the psychologist speaks and writes of intellect as an abstraction, and not as that intimate blending of mind and matter which has laid the bases of modern psychology, and especially the theory of insanity. What the blood is to a secreting gland, the spirit is to the brain. The gland forms its especial product from the blood; the brain acting with spirit produces mind." While dwelling on the pathological influence of mind on tissue, the author thus traced the course of a simple thought:—"The sensations it often induces are those which, if in higher degree, or more permanent, would become symptoms or indications of disorder. What is a chill (as of fear) but a rigor, like that of ague—its cause cardiac congestion? What a throb, but that exalted innervation, which, if protracted, might produce cardiac hypertrophy? What the flush, but that hyperæmic condition which might terminate in inflammation?" The physiological, prophylactic, and therapeutical influence of the mens sana was next referred to, and especially the principle of psychical antagonism opposing, for instance, the effects of anxiety, fear, melancholy, remorse, &c., by devotion, hope, cheerfulness, self-control, &c. The principle of mesmerism, and its prototypes, was entirely psychical, and should not be blinked by medical philosophers, who thus apathetically permit the mercenary impostor to gain the ascendant. Even the organic functions dependent on special and ganglionic influence may be mentally excited. Even peristaltic action, the salivary and spermatic secretions, may be induced by peculiar studies and thoughts. The depressing effects of grief and fear may be influential in checking hæmorrhage, or in removing acute neuralgia, as in inflammatory toothache, &c., and the effects of shame, by derivation, in relieving the condition of internal hyperæmia, &c. Mr.

Dendy referred to the extraordinary effects of terror in the case of the previously speechless son of Crœsus, who, on the uplifting of an assassin's arm, exclaimed, "Slave! kill not Crœsus," and to others. Hope is not only felt in the heart, but is synchronously the cause of a vigorous circulation. The pulse, respiration, and powers of a soldier during an inglorious retreat were contrasted with those of the victorious pursuers. In the hospital also of a defeated army the healing process is far more slow and imperfect than in that of the conqueror. The very interesting accounts of scorbutics in Lord Anson's voyage, and the pious fraud of the Prince of Orange at the siege of Breda, were apt illustrations of the effect of confidence and hope. To prove the intense effect of joy, Mr. Denby related the case of a young lady, who had been long afflicted with complete hysterical aphonia, whose vocal organs were brought for a moment into play by a promise of one of the costly jewels in the Exhibition, if she would pronounce its name. She gained the prize. Mr. Dendy next alluded to that prevalent error of human nature, automania, or wrong notions of self. Several interesting cases were adduced from the author's practice, from De Bloismont, &c., as illustrations of the potent effect of diversion or abeyance of the mind as a remedy for maladies which would perfectly resist the materia medica. If the current of morbid innervation be intercepted, the mind would forget the malady, which, according to the theory of Berkeley, would then cease to exist. This is a subject really of practical importance. In allusion to other cases of *maladie imaginaire*, one melancholy instance was mentioned of a medical gentleman under the author's care, in whom, in the intervals of extensive practice, the automania that syphilis was corroding his osseous system, at length terminated in suicide. The notion was perfectly groundless, and γνωθι σεαυτον would have saved him. Congested lung, when instinct fails in its duty, must be relieved by voluntary effort; we must not forget to breathe. The consequent collapse of the air-cells will not only increase congestion, but even favour the development of tubercle. By the due expansion of cells, the granule or germ in the pulmonary parenchyma may be subdued and kept down. The cases of Bateman and John Hunter might have formed fatal illustrations, had not the one been almost incessantly roused from slumber, and the other set himself to the voluntary inflation of his lungs. On this principle, sleep may be sometimes perilous in pulmonary disorder, as it withdraws volition. Probably this may have been the *causa mortis* in old asthmatic persons who, having long endured a sort of chronic atalectasis, have been discovered dead in their beds. The paper concludes thus:—"The basis of my remarks is this proposition,—A mere thought instantly induces a physical change, it may be, even in the crasis of the blood. By the directing or averting such thought to or from disordered structure or function, we may constantly avail ourselves of a valuable auxiliary in the practice of our intricate science."

ART. 21.—*Case of Maniacal Delirium, in which Chloroform was administered internally.* By J. R. HARVEY, M.D., Professor of Midwifery to Queen's College, Cork.

(*Dublin Quarterly Journal of Medicine*, May, 1853.)

The following case affords reason to hope that chloroform may sometimes produce calming effects in cases of insanity where opium and other narcotics had failed. Chloroform had been given internally and successfully in cases of delirium tremens by Mr. Butcher and Dr. Duncan, and this seems to have suggested this plan of treatment to Dr. Harris.

On Wednesday, the 12th of January, 1853, I was requested by Mr. Oakshott to see Mrs. ——, æt. 44, who had been labouring under symptoms of fever since the previous Saturday. The case would have been considered slight, but that her agitation and hurriedness of manner were more than in proportion to her other symptoms. There was not much headache, thirst, or heat of skin; pulse not above 88, but rather weak; bowels and kidneys acting fairly; the tongue was closely coated with a white creamy fur, such as frequently degenerates into a dry and black condition in the latter stages of typhus. There was little change for the next two days, except that her nights became more and more disturbed, and her manner more agitated and indicative of great but undefined apprehension.

The night of Friday, the 14th of January (the seventh of her illness), was passed without sleep, and she was frequently delirious; and next morning her manner was unusually hurried and anxious, but it was somewhat quieted for a while under a mixture containing ammonia and camphor. She readily consented to the removal of her hair, and she enjoyed the application of cooling lotions to the head. In the evening, the agitation and sleeplessness continuing, her feet were fomented, and she had a draught containing fourteen minims of Battley's sedative liquor, and twelve minims of antimonial wine, in camphor mixture.

This produced no sleep; she was violently delirious, and constantly attempting to get out of bed throughout the night, and, as the succeeding day advanced, her condition was altogether that of an insane person. The tongue cleaned in part, and her pulse become accelerated, and for the following three days and nights any one who had not seen the case from the commencement would have considered it one of pure mania. During this time opiates and antimonials combined, both in full doses, (40 minims of tincture of opium, and the same quantity of antimonial wine, followed by smaller quantities,) frequently repeated, were equally without effect. The violence, the sleeplessness, the maniacal gestures and actions, continued unabated, and she required the constant vigilence of three or four attendants.

Under these circumstances it occurred to Dr. Townsend, the benefit of whose assistance we had for the previous few days, whether chloroform might not afford results similar to those obtained in delirium tremens, and, accordingly, there appearing nothing to prevent a trial of it, we resolved to administer a drachm of the medicine in water, precisely as had been done in Mr. Butcher's case. Mr. Oakshott gave it himself, and carefully watched its effects. I give the particulars of his memoranda taken at the bedside:

"Wednesday night, Jan. 19.—Pulse 112. 25 minutes to 11 o'clock. Gave a drachm of chloroform; she gradually ceased talking. 15 minutes to 11. Asleep. 11 o'clock. Pulse 84; respirations 22. 3 o'clock. Awoke, but was

calm. Half-past 3. Arrow-root and wine; returned to sleep. Half-past 4. Awoke, wild; pulse 92; dose repeated. 20 minutes to five. Fast asleep; pulse 76.

"Thursday, the 20th.—Sleeping nearly all day; tea and plain arrow-root. To have a castor-oil draught, with compound tincture of senna. 3 o'clock, p.m. Pulse 78; respirations 20; wine and arrow-root."

In the evening she was comparatively quiet, but the maniacal excitement was easily aroused; it was determined to continue the chloroform and foment the feet. The memoranda of Thursday night were as follows:

"20 minutes to 12. Gave a draught (1 drachm) of chloroform; pulse 88; respirations 20. 10 minutes to 12. Asleep. 12 o'clock. Pulse 72; respirations 18. Quarter-past 12 o'clock, and again at 1 o'clock. Vomited and strained: went to sleep immediately; slept till half-past 3, when she took wine and arrow-root. Half-past 4. Pulse 88; respirations 20; she was unsettled; gave another dose. Quarter to 5. Asleep. 5 o'clock. Coughed and awoke; very violent; gave half a drachm of chloroform. Quarter-past 5. Asleep."

She then slept continuously till 3 o'clock, p.m., a period of nearly ten hours, and awoke greatly calmed.

On Friday night she took a drachm at a quarter-past 12 o'clock, and at 25 minutes to 1 was fast asleep. This night was passed very quietly; the pulse from 58 to 60, soft and full, and respirations 18. After this the chloroform was suspended, the bowels were relieved by a warm aperient, and she had moderately supporting diet.

On the afternoon of Sunday, the 23d, there were indications of returning excitement, the pulse rose to 96, and she became restless. "A drachm of chloroform was administered at 10 minutes past 3, a.m. At a quarter-past 4 she was fast asleep. At half-past 4, pulse 64; respirations 18. Half-past 8. Still asleep; respirations 20."

From this time she steadily improved, and her recovery was complete.

This lady had a similar attack of illness about sixteen years ago, and she since lost a brother by fever. He had violent maniacal delirium, under which he sank.

Art. 22.—*On Delirium Tremens.* By W. Camps, M.D.

(*Medical Times and Gazette*, April 16, 1853.)

The symptoms of delirium tremens vary, from the most trifling degree of tremor, wakefulness, and delirium, accompanied with hallucinations and quickened pulse, to the highest degree of nervous depression, and muscular and cerebral excitement. The first stage usually presents the following indications, and very generally in the following order:—A peculiar slowness of the pulse, attended with coldness of the hands and feet, which, being generally bedewed with moisture, and from the effect of evaporation, present a clammy, icy sensation. These are preceded and accompanied with symptoms of general debility, and usually a diminution of temperature, cramp in the muscles of the extremities, with giddiness, nausea, and occasionally actual vomiting; the bowels are sometimes open, sometimes the reverse; nervous tremor of the hands and tongue, especially of the latter, which is mostly moist, and but slightly furred. These symptoms are accompanied with a dejection or depression of the mind, which is sometimes extreme, accompanied with frequent sighing

and oppression, or sense of sinking at the præcordial region, anxiety and depressed state of the countenance, with short and disturbed slumbers. The second stage comes on with a marked increase of many of the symptoms observed in the preceding stage, the countenance of the patient assuming gradually a wild and more anxious expression; he soon begins to have various mental illusions, or hallucinations; he imagines that he sees loathsome and disagreeable objects, which constantly annoy and trouble him, and which he will attempt to catch with his hands, supposing they are upon his bed; he suffers from increased restlessness; he is excessively talkative; in fact, in some cases the garrulity is extreme, and most commonly upon the objects of his delusions. He is more sleepless, and at times absolutely so; so that by some writers this per-vigilium is considered as pathognomonic of this stage of the disease. The temperature of the surface of the body may increase, while that of the hands and feet remains cold and clammy as before. The general restlessness and hurry of manner increases; the tongue is more coated with fur, and it is now so tremulous, that the patient cannot hold it still when protruded from the mouth. The urine at this time is usually scanty; the pulse is mostly frequent, above 100, and sometimes considerably so. The pupils are usually contracted, but he does not complain of intolerance of light, nor, during the course of the disease, does he complain of any pain about him; and frequently, when interrogated by his physician or his friends about him, will reply, sharply it may be, that he is quite well, that there is nothing the matter with him. After these symptoms have continued two or three days, and the case is about to terminate favorably, the gradual mitigation of the above symptoms is usually attended with yawning and drowsiness, with evident disposition to sleep; and this, as soon as it thoroughly seizes the patient, is frequently very deep or profound, lasting sometimes from six or eight, to twelve, fourteen, eighteen, or even twenty hours; and in most instances is so completely critical, that it appears, as it were, to resolve, or almost to terminate, the disease. Of such cases as terminate favorably, this may be said to constitute the third stage of the disease; but if, on the other hand, the disease should terminate fatally, the general symptoms increase in violence; the mind of the patient labours under excessive irritability; he makes frequent and violent struggles; there is more evident depression of the muscular, nervous, and vascular systems; the pulse becomes quicker, smaller. and weaker; the tremor, too, affects nearly all the limbs; the patient is constantly talking or muttering to himself; the delirium increases in intensity; sometimes the patient expires in an attack of convulsions, and sometimes death is preceded by a subsidence of the general symptoms. The treatment of delirium tremens was then referred to, and the arguments for and against free bleeding discussed at some length, the author strongly reprobating the copious abstraction of blood, as recommended and practised by some authorities. The recorded effects of emetics, purgatives, blisters, mercurials, and the warm bath, were then mentioned. Two cases were related in which chloroform had been administered internally with advantage, after other remedies had failed to give relief. These were quoted from

our last volume. The treatment recommended by Dr. Stokes, of Dublin, who divides all forms of this disease into two classes, was also mentioned by Dr. Camps in his paper, in which he strongly advocated its treatment by opium and ammonia, and other similar remedies—a mode of treatment described as the narcotico-stimulant method.

ART. 23.—*Statistical Report of Fatal Cases of Diseases of the Brain, occurring during the last four years at St. George's Hospital.* By A. W. BARCLAY, M.D., Medical Registrar.

(*Lancet*, Aug. 6, 1853.)

The author was induced to compile this statistical report from a conviction that our knowledge of the relation between the symptoms and pathological states of the brain was as yet very imperfect; and he believed that greater certainty in the diagnosis could only be accomplished by an accumulation of facts, and by arranging these in the present form, he was led to hope that some useful and authentic information might be obtained. The report was wholly confined to cases in which, by post-mortem examination, the nature of the lesion was ascertained; for his object was to deal with facts and not with theories: and for the same reason no reference was made to the proportion of cases admitted into the hospital, nor to the relative proportion of deaths and recoveries among persons supposed to be labouring under similar diseases. It is hardly necessary to add, that diseases of the brain yielded an invariably high ratio of mortality. The cases were divided into—scrofulous inflammation, with or without actual presence of tubercles in the brain; simple inflammation; abscess; softening, of a non-inflammatory nature; delirium tremens; apoplexy; and tumours. The author proceeded to offer some observations on the cases included in these several divisions.

1. *Scrofulous Inflammation.*—These cases were twenty-eight in number, and the age at which such cases proved fatal contrasted remarkably with other diseases of the brain. There were nine under fifteen years of age; five from fifteen to twenty; seven from twenty to twenty-five; four from twenty-five to thirty; two from thirty to forty; one from forty to fifty; one over fifty years of age. No facts were recorded in the majority of the cases which threw any light upon the usual exciting cause of scrofulous inflammation of the brain. The symptoms were sometimes slowly and insidiously developed, at other times setting in with unexpected violence: while no point in the history of the case could be learned in any way accounting for their origin. And this had not unfrequently been the case when the patient was under observation at the commencement of the disorder. In nineteen of the twenty-eight cases scrofulous or miliary tubercles were found in the brain or its envelopes, the proportion of yellow, cheesy, or scrofulous tubercle being far greater than those of the miliary kind. The mode of incursion of this form of brain disease was very various; but those in which it was most difficult to recognise were the cases commencing with symptoms resembling ordinary continued fever. In three instances there had been previous attacks referable to the nervous centres; in another instance the symptoms were developed soon after a fall; in one, after exposure to the sun; in the remainder there

was no satisfactory history. In eleven cases pain in the head was the earliest symptom; in six, delirium was the first prominent symptom; in two, convulsions commenced as the first evidence of mischief. In eleven out of twenty-eight cases, pain of the head was not complained of; delirium was absent in eight cases of this class. Convulsions may be said to be the rule, and their absence the exception, in childhood. Among the twenty-eight cases there was no exception to this under the age of thirteen. The period at which delirium commenced, convulsions, paralysis, partial or general strabismus, were also carefully noted and recorded. The post-mortem condition of the cerebral mass, as well as of the membranes and vessels accompanying the scrofulous deposit, were next compared.

2. *Simple Inflammation and Congestion.*—The ages of these patients formed a striking contrast to those of the preceding class. Here the earliest period of fatal inflammation was sixteen years, and only three were reported under the twenty-seventh year, the period at which all but five of the scrofulous cases had terminated. Classed in periods of ten years, there were three cases from fifteen to twenty-five, eight from twenty-five to thirty-five, four from thirty-five to forty-five, three over forty-five years of age; the oldest occurring at the age of fifty-seven. Of the eighteen cases only four were of the female sex. The mode of incursion in cases of simple inflammation was less insidious and more commonly traceable to a distinct exciting cause than in the preceding class, and there were only three instances recorded in which the history of the case and the character of the symptoms rendered the diagnosis of acute disease in the brain by any means doubtful. The special symptoms characteristic of cerebral lesion, pain of the head, delirium, convulsions, and paralysis were noticed in relation to their frequency and the period of their occurrence. Of the post-mortem appearances, lymph or turbid serum was found in nine cases upon or under the arachnoid; in fourteen cases fluid was found in the ventricles. The brain was soft in four cases, two with increased vascularity, and two with a watery state of the brain. It was congested in eleven cases, and wet and pale in three. Then followed a contrast between the symptoms in the scrofulous and the non-scrofulous class.

3. *Abscess of the Brain.*—Five examples were recorded of this form of disease. The history of these cases was somewhat obscure, and the causes which determined this action in the cerebral lobes, and the period at which suppuration actually commenced, were uncertain. Four of the cases were encysted; one was simple abscess, two were associated with caries of the temporal bone, one with suppuration on both sides of the cranium opposite to the sloughing wound of the integuments.

4. *Softening of a non-Inflammatory kind.*—Only one instance of this form of lesion was recorded: its duration was five months; its progress was chiefly marked by the existence of hæmiplegia, with indistinct articulation; the whole of the medullary substance on the left side was softened and diffluent; the brain appeared congested.

5. *Delirium Tremens.*—Ten fatal cases of this disorder were recorded. They were all of the male sex. The ages varied from twenty-five to fifty-four. Various diseased states of other organs were noted, which probably exercised an influence, more or less decided, in causing the cases to terminate fatally. The heart was diseased in seven cases; the liver in six; the kidney in two. In four cases tubercles were found in the lungs; once recent; five times in the form of a cretaceous mass. The membranes of the brain were congested in four cases; an excess of fluid was found under the arachnoid in eight cases. In six cases the ventricles contained an excess of fluid. The substance of the brain was, in the majority of cases, "wet."

6. *Apoplexy.*—There were fourteen cases of this disease; nine males; five females. Seven cases from forty to fifty years of age; three from fifty to sixty; three from sixty to seventy; one over seventy years. Atheroma of the arteries at the base of the brain existed in seven cases; healthy in five. The heart was distinctly hypertrophied in seven cases; in all these cases the kidneys were also diseased. The anatomical conditions in the brain were various; in one case, an old apoplectic clot under the arachnoid; in another case, turbid serum under this membrane; there was an effusion of blood in this case, limited to two small clots in the third and fourth ventricles. In three cases there was a good deal of blood effused at the surface, with large clots in the substance of the brain. In nine cases the clots occupied a central position with reference to the hemispheres. Distinct softening in the vicinity of the clot was found in five cases.

7. *Tumours.*—Of these were six cases: three males, three females; ages varied from twenty-four to forty-nine. Four were examples of encephaloid disease; two of encysted growths.

8. *Anomalous Cases.*—Two cases could not be referred to either of the preceding classes. There was no evidence of any anatomical lesion in the cerebral structures; while the symptoms during life were distinctly characteristic of brain disease. In one, the kidneys were in a state of degeneration; but the author doubted if albuminuria ever produced paralysis of one side of the face, and strabismus, which preceded the stupor and coma, terminating fatally.

The author concluded by a general summary of the symptoms during life, in relation to the anatomical lesions recorded after death.

Art. 24.—*Cases of Affections of the Nervous System, of organic and inorganic origin.* By J. W. Ogle, M.B., Physician to St. George's and St. James's Dispensary.

(*Medical Times and Gazette*, July 30, and Aug. 13, 1853.)

The two subjoined cases are from a series of carefully noted cases, now in course of publication, calculated to illustrate some obscure points in cerebral pathology, and to support (apparently) Dr. Marshall Hall's recent views in these matters.

Case 1.—Mr. M—, a steward in a nobleman's family, of thin, sparc habit of body, and excitable temperament, had not been well for some days, feeling "very sickly," and had more than once vomited his food. On the 9th of April, 1852, he ate heartily at dinner, and partook of pickles. On the 10th, he awoke with considerable headache, and a peculiar difficulty in breathing, with a sensation of "something in the throat," to quote his own words, preventing his swallowing with comfort. He had some tea and bread for breakfast, but vomited them, and complained much of headache, "feeling very queer" as he said. About a quarter of an hour after breakfast, he suddenly became perfectly giddy. His eyes became "dim and misty," and, by dint of much "tottering" he managed to reach his bed-room. While in his bed-room, and the sensations still continuing, he felt "as if there was something in his throat, stopping the passage and choking him." His wife, who was not with him, heard him then make a "very odd noise," and ran to him. He became "deathly and livid," and "almost senseless," and he wandered about his room, "cramming his fingers into his mouth." Nothing like biting of the tongue, cheeks, or lips, or any twisting of the head or neck

(torticollis) existed. I then saw him, and gave him an antacid draught, containing carbonate of soda and magnesia, &c. The patient became better, as he said experiencing "speedy relief." The draught was repeated several times, and, by attention to the diet and bowels, no other unpleasant symptom at any time arose. The above attack is described as being exactly like one which the patient experienced some years previously, when he "lost his senses" for a quarter of an hour, but gradually recovered.

Remarks.—We have, in this case, an instance of perhaps the most common cause of eccentric irritation producing "head symptoms," and, doubtless, the use of extra feeding and indigestible food, concurred with a special proneness to excitability in a weakly subject, in bringing on what may be termed trachelismus. This term is applied to the constriction of the muscles about the throat, which produced the uncomfortable, and even painful feelings, in that region, of choking and strangulation, causing him to thrust his fingers into the throat. The muscles involved in this case were rather those in front of the larynx, &c., than those at the side of the neck, which, under spasm, would press violently on the veins returning blood from the head. It is more than probable, that there was a certain amount of laryngismus also, that is, of spasm of those muscles which play the sentry at the entrance of the windpipe, and that the very "odd noise" spoken of as being heard, was owing to a violent inspiration during the state of spasm. The wife was not present to see if any lividity was caused by this very temporary condition. The use of antacids in such cases would seem to be the correction either of a superabundant amount of such acid as is natural to the stomach, or of some acid which the stomach is unaccustomed to, and which becomes generated therein, and acts as an irritant.

Again, it may be that, in some cases, the alkali acts as a direct sedative, lulling irritation, just as it acts when applied in certain instances, to relieve external cutaneous irritation, in the form of lotions. Had not the treatment acted as required, the next remedy would have been an emetic, which would have expelled the irritating cause, and tended to prevent any excess of spasmodic action, as the act of vomiting always does.

Case 5.—W. R., æt. 42, a healthy man, was servant to Lord Westmoreland, as Ambassador at Berlin and Vienna. He had been subject to occasional headaches, supposed to be from the heat, but not to any marked irregularity of the digestive organs. While in Vienna, about the middle of summer, 1851, and exercising some horses before breakfast, he was seized with a "fit," and fell from his horse. He was removed to the Hospital of the Charitable Brothers, ("Spital der Barm-herzigen Brüdern,") and was bled, leeched, and "strapped down," according to his wife's account, and some form of counter-irritation was used to the legs. When seen by his wife in the evening, for the first time, he was perfectly insensible, and could not be roused. For four days he remained in his bed unable to notice any one, and rambling in speech. His skin was perfectly cool and pale. After "coming round," he still remained three or four days before he became quite sensible; there was no biting of the tongue or foaming at the mouth. For fourteen weeks, owing to the severe effects of the counter-irritation, he was obliged to remain in the hospital; but no impairment of either mental or bodily powers remained from the apoplectic attack, which was imagined, at the time, to have been a *coup de soleil.* The legs became healed, and he went on quite well. About the end of January, 1852, he returned to England, and at that time was in some degree of mental anxiety as to his future prospects. Shortly after his return, and while in the midst of good bodily health, his wife noticed him one morning as fixing his eyes in a very curious manner on the wall. He became a "pale blue colour,

and his eyes rolled, and he foamed at the mouth." The mouth was not however, drawn to one side, or the tongue or lips at all bitten. He became quite insensible, and remained so for two days; he was treated with very strong catharties. On "coming round" he rambled much, but no affection of the memory, speech, or bodily powers remained. Some weeks following, the old wound of the leg, set up by the counter-irritation in Vienna, broke out again slightly, but did not yield much purulent discharge. For this he was treated. When on the point of imagining himself well again, he was seized about ten p. m., while apparently well, with very loud and strange fits of laughter, without any cause. He then screamed very loudly, and twisted his neck violently on one side, gnashing his teeth violently. The eyes became blood-shot, and the face red and swollen, as if he were "strangled," to use the expression of a bystander. The face and eyes "worked much," and the legs were drawn up to the trunk, which was greatly swollen. He bit his tongue, but only foamed very slightly at the mouth. This went on for two or three hours, his body being perfectly warm. He was seized with vomiting of much dark fluid, and had great difficulty in swallowing. There was also "great working of the throat," and noise in breathing, but no "blowing or flapping of the cheeks," or "workings of the jaws." He presently became quieter, becoming, at the same time, cold and stertorous, and he gradually passed into a comatose state, in which he died about twelve a. m. the following day, being about eight hours after the commencement of the attack.

On *post-mortem* examination, I found that the veins of the membranes of the brain were very distended, and that very much fluid existed under the arachnoid membrane, and in the ventricles of the brain, but nothing more. The structure of the brain was perfectly natural, and nothing like a sanguineous "clot" or disease of the blood-vessels, existed in any part. The kidneys and other organs of the body were natural.

Remarks.—In this case we have an instance of paroxysmal apoplexy, which, in the latter attack, was greatly modified by epileptic symptoms. There was evident trachelismus, and some amount of so-called laryngismus; and the loud laughter must not be unnoticed. This was probably owing to some pleasurable feeling allied to temporary mania caused by congestion. I will quote, at another time, a well-marked instance of most severe, but perfectly temporary mania, connected with intestinal irritation. It might have been imagined, that such severe symptoms as this case presented, with coma and stertor, could only have resulted from some extravasation of blood; but yet none was found. Other instances I have to bring forward, in which most urgent apoplectic symptoms, followed by coma and death, existed, and yet nothing but extreme watery effusion was found within the cranium, causing extreme pressure, and so every symptom of pressure from clot. In the earlier attacks in this case, which were most probably not the results of a *coup de soleil*, there had been, doubtless, similar serous effusion, causing the long-continued insensibility; but this became subsequently absorbed. It is worthy of remark, that we have no history of stertor of such like paralysis from the pressure in the early attacks, and how tardy its appearance was, even in the last and fatal attack. I ought to have mentioned above, that the freedom from facial paralysis or ptosis, or such one-sided symptoms, in any of the attacks, might have led one to expect general effusion rather than extravasation of blood at any single part. Other cases will, however, show, that even on this point we cannot always be correct in our diagnosis. The surgeon who had the treatment of this patient as to the sore legs, &c., agreed in the expediency of trying tracheotomy in such cases; but at the time this remedy had hardly been suggested in their treatment.

Art. 25.—*On Apoplexy of the Spinal Cord.* By M. Trier.

(*Gunsb. Ztschr.* iv, 1, 1853; and *Medical Times and Gazette*, July 16, 1853.)

Ollivier, in his work upon diseases of the spinal cord, based his views, as to the influence of spinal hæmorrhage on sensation and motion, upon the physiological views at that time recently propounded by Bell and Majendie. His observations, however, wanted confirmation, inasmuch as pathology had not recorded a single case of hæmorrhage into the spinal cord, without their co-existing lesion of the brain or of its membranes, so that it was impossible to determine the share which each had in producing the morbid phenomena. Since then, Gaultier de Claubry, Cruveilhier, Monod, and Grisolle, have related cases; and Trier adds another, which occurred in the Friedrich's hospital.

The author concludes, from these cases, that the paralysis affects that side of the body which corresponds with the extravasation. There may be loss of motion alone, or of sensation alone, or of both together; the last being the most common. It is not yet proved, that hæmorrhage into the posterior part of the spinal cord especially affects sensation, and into the anterior part of the spinal cord motion. From the cases hitherto recorded, it has been remarked, that paralysis is not the first symptom. The disease commences after a shivering fit, with pain along the corresponding part of the vertebral column, with increased sensibility to pressure upon the spinous processes. This pain soon extends from the affected spot to both sides of the body, and seizes on the limbs, which soon become paralysed. The pain differs from that of rheumatism, in not being increased by active or passive motion, or by pressure. In paralysis, resulting from cerebral apoplexy, this symptom is wanting. In hemiplegia dependent upon hæmorrhage into the cord, there is frequently pain of the opposite side of the body, a symptom not remarked in similar conditions dependent upon cerebral disease. The degree of pain varies from a sense of weight and oppression to the most acute and agonising suffering. Cramps of the toes, so often witnessed in apoplexy of the medulla oblongata, and also in cerebral hæmorrhages, do not occur in apoplexy of the spinal cord. Paralysis of the bladder and of the rectum occur simultaneously with the muscular paralysis, or soon after; the former producing ischuria, or simple eneuresis; the latter constipation, which, once removed, is followed by involuntary discharge of fæces. Respiration is affected in those cases only where the upper part of the spinal cord is involved. It is short, broken, and hurried, and sometimes purely diaphragmatic, from paralysis of the intercostal muscles. Paralytic aphonia is as rare as paralytic dysphagia from this cause. The pulse at the commencement is often strong, full, and frequent, but subsequently it resumes its usual beat, if nothing accidental occurs to interfere. The intellect is clear, the movements of the muscles of the face and tongue unimpaired. As secondary appearances, the author enumerates passive congestions and hæmorrhages into the abdominal viscera, ulcerations of the urinary mucous membrane, abscesses, and bed-sores. Hæmorrhage frequently takes place in the spinal cord, which has undergone partial softening.

It has occurred in persons who have been violently exerting themselves; but, as in cerebral apoplexy, recovery seems possible after the lapse of many years. As regards the ecchymoses upon the lower segment of the body, as also the dark colour and injection of the mucous membranes and of most of the viscera of the abdomen, both Ollivier and Cruveilhier have pronounced them to be appearances resulting from stoppage of the circulation consequent upon impeded respiration. But, observes the author, this explanation does not suffice for those cases in which respiration becomes free shortly before death; and it is remarkable, that similar morbid appearances do not occur under other conditions leading to difficulty of breathing. He, therefore, dismisses the generally received opinion, and believes, that the cause must be referred to want of power in the sympathetic nerve, which, from its intimate connexion with the spinal nerves, must sympathise with destruction of the spinal cord, and be reduced to a more or less paralysed condition. This influence is manifested by stoppage of the circulation, by transudation of blood, or by ulceration, and the formation of abscesses.

ART. 26.—*A Case of Traumatic Compression of the Nervus Vagus and Sympatheticus in the Neck.* By Dr. BURGREAVE, of Ghent.

(*Schmidt's Jahrbuches*, No. 8, p. 169, 1853.)

The fatal result in this case is clearly due to the compression of these nerves, and the manner in which it is brought about agrees very closely with the results of those experiments upon the lower animals in which these nerves have been divided.

The case was that of a strong and healthy labourer, twenty-eight years of age, who was thrown from a hay waggon. In this fall his left ear was severely lacerated, and his left thigh broken. His neck also became swollen, and he was unable to swallow, everything which he attempted to drink returning, along with large quantities of mucus. His intelligence was unaffected, and the movements of his countenance presented no disorder. He pointed to the middle of the neck as the place where the impediment was seated, which prevented him from swallowing. His speech was unaffected, and except the difficulty in swallowing, and the injury to the ear and thigh, there seemed to be nothing the matter with him.

The thigh was set and the ear dressed. A small quantity of blood was then let, and this blood was found to have a slight buffed coat. Towards the evening sharp fever set up. The night was disturbed. In the morning the breathing was found to be irregular and oppressed, and this difficulty went on increasing during the day, and gradually taking on the character of asphyxia, death happening in consequence in the course of the night. The difficulty of swallowing continued until the last.

After death, in addition to the broken thigh and external injuries, a copious effusion of blood was found deeply buried in the left side of the neck, and pressing upon the carotid, the vagus, the sympatheticus, and the pharyngeal plexus. The left styloid process was broken at its base, but not displaced. The effused blood did not press upon the facial, vaginal, glosso-pharyngeal, the pneumogastric plexus, the superior cervical ganglion, and the upper cervical nerves of the left side. The brain and spinal cord, the tongue, and larynx,

presented no signs of injury. The air passages were filled to their minutest subdivisions with frothy mucus; the lungs were deeply congested with black and fluid blood, and the heart was full of the same fluid, half-coagulated. The chest presented no signs of fracture or other mechanical injury.

ART. 27.—*Case of Abscess in the Cerebellum.* By Dr. GORDON, M.B. M.R.I.A., Physician to the Whitworth and Hardwicke Hospital.

(*Dublin Quarterly Jour. of Medicine,* May, 1853.)

This case, which was brought before the Dublin Pathological Society, was that of a man, twenty-seven years of age, who was admitted into the Hardwicke Hospital on the 10th of January, having been ill twenty-one days. His symptoms were rather of an inflammatory type; his skin was hot; pulse quick; lips much swollen, and an herpetic eruption was coming out over him; his speech was thick, and had been so for twelve days, during which period he complained of slight pain in the head, and had raved the night before his admission; his pulse had fallen from between 110 and 120 to 40; he complained, when admitted, of intense pain in the head; he was at once treated actively, and an endeavour was made to put him under the influence of mercury. Next morning he was exceedingly restless, tossing himself about, and screaming loudly and incessantly, apparently suffering most intense agony; the temporal arteries were throbbing violently; the head was hot, and drawn back; the chest thrown forward, the knees drawn up, and the muscles of the neck standing out rigid. As soon as he was brought under the influence of mercury, which was pushed to salivation, he experienced considerable relief; the headache nearly subsided; the pupils, which were hitherto dilated, were now contracted, and his head was no longer retracted. He slept a little, took some food, and continued to improve that day. Next morning, about twenty minutes after eating a good breakfast, he lay back and died.

Autopsy.—There was no inflammation of the membranes of the brain; no effusion of lymph, serum, or purulent matter; the brain itself was rather vascular, but more especially the cerebellum, on making a section of which, a large diffused abscess was found, the cavity of which was filled with very thick purulent matter; it had not burst, but the upper surface of the cerebellum, by which it was limited, was remarkably thin. There had been no discharge from the ear, nor any pain in it; neither was there any disease of the temporal bone.

ART. 28.—*Case of Paralysis of the Common Motor Oculi Nerve.* By JOHN STRUTHERS, F.R.C.S., Lecturer on Anatomy, Edinburgh.

(*Edin. Monthly Journal,* July, 1853.)

This case is interesting from the opportunity which Mr. Struthers had of observing it carefully in its various stages, and of making a complete examination, after death, of all the parts concerned.

The patient was a man æt. 73. When I saw him first, on September 16th, 1852, the following symptoms presented themselves in connection with the left eye:—The upper eyelid was completely fallen, and without any motion. When the lid was held up, the eye was seen to be a little prominent and a little everted. The eye could not be moved upwards or downwards or inwards, but it could be moved freely in the outward direction. The rotatory motion described by Dr. Jacob as visible in such cases, was distinctly seen when the patient was directed to look downwards. It is a delicate rotatory motion, in a direction to bring the top of the eye round towards the inside, and perhaps also a little forwards, the whole being like a vibration of the eye in that direction.

The pupil was enlarged to about twice the size of the other, and also fixed, even under the strongest light, whilst the other moved readily. The vision of the eye was good, and apparently unaffected by the attack, and its common sensibility was unimpaired.

The falling of the eyelid was noticed a fortnight before, in the morning, after he had sat in the open air the previous evening, in his usual health.

The diagnosis was evident. The unaltered vision and unimpaired common sensibility of the eye and forehead, showed that the optic nerve and the fifth pair were unaffected. The power to move the eye outwards, and the somewhat everted position, showed that the sixth or abducens nerve was not involved. The loss of power was in the parts supplied by the third or common motor oculi nerve,—the levator muscle of the lid, the superior, inferior, and internal recti muscles, and the fibres of the iris by which contraction of the pupil is effected.

We have no very decided indication of the result of paralysis of the inferior oblique, the remaining muscle supplied by the third nerve. The rotatory motion already referred to, may, however, be looked upon in this light. According to the view, which I have elsewhere brought evidence to establish,* that the use of the oblique muscles is to turn the eye more or less directly on its antero-posterior axis, we can explain this rotatory motion on the supposition that it is occasioned by the action of the superior oblique, unopposed by the action of the inferior oblique, which must be paralysed along with the other muscles supplied by the third pair.

The treatment in this case consisted in the application of blisters to the nape, and a mild mercurial course, with the use of occasional laxatives, under which a gradual improvement of the symptoms connected with the paralysis took place. Towards the end of October (two months after the commencement of the attack) the eyelid could be raised about a third, and there was evident power of inversion and depression, but the pupil still remained dilated and fixed.

Soon after this the iris also began to regain its power of contracting the pupil. By the middle of November the pupils were equal, and equally contractile, the left having returned to the original size of the right. The eyelid could be raised so as to show half of the cornea. The inferior rectus had regained nearly all its power, the internal rectus acted moderately, and the superior rectus least. The rotatory motion was not now perceptible.

The improvement on the motions followed the mild action of the mercury on the gums. An indolent ulcer formed on the cornea of the other eye, and there was considerable chronic ophthalmia, especially of the right eye, with flaky discharge, and also some ophthalmia tarsi; all of which improved under the use of the nitrate of silver and the red oxide of mercury ointment.

* Monthly Journal, 1849, On the Oblique Muscle of the Eye; and 1852, On the Nerves of the Orbit.

It will be observed, that the ulceration and chief inflammation affected the right eye. Had these occurred on the left or paralysed side, the erroneous inference might have been drawn, that the paralysis had injured the nutrition of the eye, as is known to occur when the fifth pair of nerves is paralysed.

The eye symptoms continued to improve up to December 5th, when my brother was suddenly summoned to see the patient on account of an apoplectic seizure. He was not completely paralytic or comatose, but gradually became so, and died next day, about thirty hours after the seizure.

The post-mortem examination had an additional interest from the previous history of the patient. About ten years before he had an attack of hemiplegia of the right side, from which he recovered in a few weeks, so as to be able to walk, but it was longer before he regained the use of the hand for writing. For several years back, although he has had no actual paralytic seizure, there were several threatenings of them; indeed, on one occasion, he was found insensible, but recovered in a few hours, after free venesection. Formerly he was a man well known in his day, of strong and active intellect, though wanting in the higher qualities of mind. For several years back he has, however, been an invalid, and latterly partially imbecile. Long under the care of my brother in Leith, he was also much indebted to the kind attentions of Dr. Alison.

Post-mortem examination 48 hours after death. Present—Dr. James Struthers, Mr. Doig, and myself.

Brain.—About four ounces of serous fluid escaped when the brain was being removed. Convolutions slightly flattened. Lateral ventricles distended by clear serum, the right to three times, the left to twice the natural size. The foramen of Monro nearly admitted the point of the little finger. Pacchionian bodies large, and pia mater generally slightly congested. The whole of the cerebral hemispheres and cerebellum were carefully sliced, but no trace of former or recent disease could be seen. After the removal of the arteries at the base, and the escape of all the fluid, the brain weighed 51¾ ounces.

We next examined the *nerves at the base.* Pia mater between crura cerebri a little thickened and opaque, as if from infiltration of serum, but there was no lymph. Trunks of internal carotid arteries slightly atheromatous. At its origin, it is known that the third nerve lies close between the posterior cerebral and superior cerebellar arteries, so close that one of the old anatomists supposed the heaviness of the eyes in sleep to be due to the distended arteries pressing on the nerve. Now, the third nerve on the right side seemed so closely embraced by these two arteries, that had this been the paralysed side, it might have been supposed to have been the cause of the paralysis; but on the paralysed side the arteries lay at some distance from the nerve. All the nerves, including the other two motor oculi nerves, were healthy and equal on the two sides, except the third or common motor oculi nerve. On the left side it was fully one third smaller than on the right, and was of a brownish-yellow colour, all the others being of a pure white. The origin of the third nerves was carefully examined at and below the surface, but no difference could be detected, nor was any trace of disease apparent in the crura cerebri, pons, or quadrigeminal bodies. Under the microscope, the nerve tubes from the left third nerve were about half the size of those from the right, also less distinct, and proportionally more mixed up with filamentous tissue.

Dissection of the Orbits.—The straight muscles supplied by the paralysed nerve were evidently somewhat wasted, and on weighing their fleshy portions, were found to be lighter than those on the right side; the levator palpebræ one grain; rectus superior, and rectus internus each half a grain; rectus inferior two and a half grains, less than on the right side. Each oblique muscle seemed

to be of equal weight with its fellow on the other side; and the left external rectus weighed one grain more than the right.

I made a careful dissection of all the nerves of both orbits, but must confine myself here to a very general notice of these. The trochleator and abducens nerves were healthy and of equal size on the two sides. The common motor oculi nerve generally was smaller on the left than on the right side, both in the cavernous sinus and orbit. The upper was about one-half, and the lower division about a fourth or fifth smaller than on the right side.

The ophthalmic ganglion and ciliary nerves were examined. The ciliary nerves appeared equally large on the paralysed side. On the left side seventeen, and on the right fifteen separate ciliary nerves were dissected entering the eye, eleven of these on each side being short ciliary, or derived from the ganglion. The ganglion on the left side was of the usual size and form, but on the right side it appeared to be smaller. This was perhaps due to its irregular shape. It was elongated more upwards than forwards, and the lower anterior angle was prolonged some distance before it divided into nerves. Whilst the long root resembled that of the other side, the motor root on the right side was shorter than usual. On the whole, it had at least the appearance of being smaller than the other, and smaller than the ganglion usually is, and had this been on the left side, we might have concluded that the ganglion had, as we should expect, wasted under the paralysis of the third nerve.

The result of the dissection may be summed up briefly, that death was occasioned by what is usually termed serous apoplexy. That the third nerve generally, and the muscles supplied by it, were somewhat wasted, and that no special cause could be found, the serum effused at the base not lying more in the way of the left nerve than the right. The motions having returned to a considerable extent, we could hardly expect to find anything more, and the case may be regarded as one of those usually designated *rheumatic*, and probably arising from exposure to cold, like the more common cases of paralysis of the face, and as in another case of paralysis of the eye, at present under my care. The attack in this case also came on suddenly after exposure to cold. The whole of the common motor oculi nerve is paralysed, especially the upper division, there being only slight power in the parts supplied by the lower division of the nerve. The sixth nerve also is completely paralysed, and probably also the fourth, as the eye remains straight and motionless. Vision is good, at least when the patient is made to look through a small hole in a card, to make up for the enlarged and paralysed condition of the pupil. This patient, however, has no other complaint, and is likely to do well, as may be expected of most of those cases in which the paralysis is local, and has come on suddenly after exposure to cold.

Art. 29.—*On a Case in which the Sarcina Ventriculi seu S. Goodsirii, was found in the Fluid removed from the Ventricles of the Human Brain.* By W. Jenner, M.D., Professor of Pathological Anatomy to University College, &c.

(*Medico-Chir. Rev.*, Oct. 1853.)

The sarcina Goodsirii has been found, not only in adults and children, but also in the lower animals,—viz., the rabbit, the dog, and the tortoise.* It is by no means rarely present in the matters ejected

* Canstatt's Jahresbericht, Dritter Band, 1850.

from the human stomach and intestinal canal. In 1847, Heller* described a case in which he discovered sarcinæ in the urine; subsequently, Dr. Mackay† detected them in the same fluid; and Virchow‡ and Zencker§ in the lungs.

To all of the last-mentioned cases it has been objected that the sarcinæ were in reality derived from the stomach; that when found in the urine, some of the vomited matters had been accidentally mixed with that fluid after its escape from the bladder; that when found in the lungs, the sarcinæ had passed into them during the act of vomiting. The more recent observations of Heller‖ have, however, placed beyond a doubt the fact that sarcinæ Goodsirii are occasionally present in the urine when that fluid is free from admixture with vomited matters. In one of the two cases last described by Heller, the urine was examined for many weeks in succession, and a sediment in it of an inch in depth sometimes observed, composed of sarcinæ only, or of sarcinæ mingled with a little carbonate of lime. The following case lends support to the foregoing evidence in favour of the opinion that the stomach and intestinal canal are not the exclusive seats of the development of the sarcinæ Goodsirii.

A boy, aged four years, was admitted under my care into the Hospital for Sick Children, June 24th, 1852; he died July 3d. The child was of fair complexion, well-made, and moderately stout. His illness was reported to have commenced on June 17th, with pain in the head. On the 19th, he was taken as an out-patient to King's College Hospital; subsequently to that time he never complained of headache, only he seemed heavy. He did not keep to his bed till the 23d. After his admission into the children's hospital, the most prominent symptoms were, drowsiness, talking in sleep, an irregularly diffused scarlet rash on the skin, redness and swelling of the tonsils, with a white patch on the left tonsil, frequent pulse, sordes about the teeth, and some dryness and brownness of the tongue. On the 30th, it is noted, "Almost incessant grinding of the teeth; seems quite sensible when awake; asks for the cold wash to be applied to his head."

Between the 30th of June and the day of the child's death,—i.e. July 3d, —restlessness, strabismus, inequality of the pupils, and redness of the conjunctivæ. General convulsion commenced about four a.m., on the 3d, and continued till the child's death, at half-past four a.m.

The examination of the body was commenced ten and a half hours after death. The vessels of the dura mater were more filled with blood than is usual. Numerous semi-transparent grey granulations were seated *on the arachnoid lining the dura mater*, and a few similar granulations on the visceral arachnoid. The arachnoid itself was dry; the cerebral convolutions were flattened; the minute vessels of the pia mater, on the surface of the convolutions, were abnormally injected with blood. In the grey matter of the cerebrum were about fifteen masses of yellow tubercle,—the largest was oval, half an inch by a quarter of an inch,—the smallest about the size of a very large pin's head. The pia mater, dipping between the convolutions, was

* Eine eigenthümliches Harn sediment. Archiv für physiologische und pathologische Chemie und Mikroskopie, Heft. 4.

† Lectures on Clinical Medicine, Dr. J. H. Bennett, July, 1851.

‡ Schlossberger, Die Sarcina, Württemberg, Corresp. Bl. N., 26.

§ Henle's Zeitschrift, Band iii.

‖ Archiv für physiologische und pathologische Chemie, &c., 1852, p. 30.

studded with grey granulations. Four ounces of colourless serosity were removed from the lateral ventricles,—that which first escaped on opening the ventricles was transparent, that which flowed towards the last was turbid. The fornix and septum lucidum were white and of a creamy consistence. Viewed from within, the floor of the third ventricle was highly vascular. The membranes covering the base of the brain were opaque, tough, and loaded with serosity. The fluid removed from the ventricles was alkaline and albuminous; after standing twenty-four hours, the deposit of albumen constituted one seventh of the fluid tested. In the cerebellum were several masses of yellow tubercle.

Microscopical Characters of the softened Fornix and Septum Lucidum.—There were no granular corpuscles, no free fat-granules, detected in the softened septum lucidum and fornix. In the cerebral substance, adjacent to some of the tubercles, were numerous large granular corpuscles.

The peritoneum was studded with grey granulations; it was abnormally vascular. Grey granulations studded the pleuræ, pericardium, and lungs; the bronchial glands were stuffed with tubercle; the liver was dotted throughout with small, transparent, grey granulations; yellow tubercles in considerable numbers were found in the spleen and kidneys: there was an ulcer on either tonsil. The small and large intestines were extensively ulcerated; the edge and floor of some of the ulcers were covered with tubercles.

July 5th, 11 a.m.—The fluid removed from the lateral ventricles of the brain was examined more particularly than it had previously been. After its removal from the cerebrum, on the 3d, the fluid had been kept in an open glass vessel, in a large, light, and airy room. It turned turmeric paper brown; its odour was sickly, brain-like, not ammoniacal; it seemed as if just beginning to decompose. There was a little sediment at the bottom of the vessel.

A drop of the fluid containing some of the sediment was examined with a magnifying power of about 200 diameters; the following objects, *and those* ONLY, were contained in it:

1. A considerable number of spherical bodies $\frac{1}{4000}$th of an inch in diameter of a pale yellowish colour, (blood-discs altered in form?)
2. Square bodies, each side of which measured $\frac{1}{2000}$th of an inch; some were a little larger than this, others a little smaller. The surface of each body was divided by cross lines into four equally-sized compartments, and each of these quarters was again divided into four. In some of the bodies the lines producing the secondary quarterings were well, in others imperfectly, marked; while in others these secondary quarters were themselves divided by cross lines into four parts. The angles of the bodies were somewhat rounded. Some of these bodies were, Dr. Jenner writes, "as well-formed sarcinæ as I have ever seen.
3. Oval bodies about $\frac{1}{5000}$th of an inch in breadth, and $\frac{1}{2500}$th of an inch in length, distinctly divided by a transverse line into two equal parts; each of these two parts being very obscurely divided by a longitudinal line into two other parts.

The fluid removed from the pericardium had been standing side by side with that removed from the ventricles of the brain; it was alkaline, but contained no sarcinæ.

It was a question when this child came under observation, whether or not he was suffering from scarlatina. The fatal termination was evidently the result of acute tuberculosis. Unfortunately, the fluid from the ventricles of the brain was not examined for forty-eight hours after its removal from the body. The questions, therefore, arise—Were the sarcinæ in this case developed after the fluid in which they were found was taken from the cerebral ventricles?

Were they developed after death, but within the body? Did they exist in the ventricles while the child was yet living? To whichever of these questions the answer be in the affirmative, the occurrence of sarcinæ under the conditions mentioned is remarkable.

The fluid in which sarcinæ have been found in the stomach has been on all occasions acid; and in the same situation vinous fermentation has been their constant concomitant. So invariably have the torulæ cerevisiæ, and sarcinæ Goodsirii been found together, that Simon of Halle* has maintained that the latter are merely an advanced stage of the development of the yeast plant. In this case, as in one of Heller's cases, the fluid in which the sarcinæ formed was alkaline, and in it there was no trace of torulæ, and no evolution of gas. Supposing the sarcinæ to have been developed in the fluid after its removal from the body, then this case stands alone, inasmuch as they have never heretofore been known to form, except in the interior of the bodies of animals.

As to the stages in the development of the sarcinæ, they would appear from this case to be briefly these. A simple cell is divided into two parts by a transverse line; each of the two cells thus formed are again divided into two by a longitudinal line; each quarter of the primary cell subsequently experiences the same changes as the primary cell itself. This description of the mode of development of the sarcinæ differs *in toto* from that given by Simon of Halle,† who states that the primary cell increases in size and changes its form by the formation of nuclei in its interior; and as widely from that given by Pockel,‡ who affirms that the increase in size of the primary cell is partly the effect of endogenous cell-formation, and partly of gemmation, while comparatively it differs but little from that given by Freirichs.§

Art. 30.—*External Application of Atropin in Neuralgia.* By M. Liugi Crosio.

(*Medical Times and Gazette*, Aug. 30, 1853, from the *Gaz. Lomb.*, vol. i, 1852.)

In four cases of severe neuralgia—trigeminal, supraorbital, brachial, and ischiatic—in which other remedies had failed, the external application of atropin effected a speedy cure. One gramme of atropin, dissolved in spirit and mixed with a drachm of fat, was rubbed into a surface of integument excoriated by a blister. There were symptoms of intoxication in one case only. Upon the second day, in each case, the pupils were dilated, the skin hot and dry, the head oppressed. All objects appeared small and confused, and the patients feared to become blind. As these sensations subsided, the neuralgic pains disappeared. Care was taken that the brain became not too much affected.

Art. 31.—*Case of Fatal Uncomplicated Chorea.* By Dr. E. Leudet.

(*Archiv. Gén. de Méd.*, Sept., 1853.)

Cases of this kind are extremely uncommon, and not more than a dozen have been recorded. This case, also, is interesting, as having

* Ueber die Entwicklung der Sarcine aus dem Hefenpilze. Virchow's Archiv, Band ii.
† Loc. cit. ‡ Nonnulla de Sarcina Goodsirii, Wirceburgi.
§ Ueber Sarcini Ventriculi. Häser's Archiv, Band x.

been more rapidly fatal than any of the rest. One related by Dr. Babington was fatal in eleven days; another, by M. Skoda, and another by M. Rufz, in twelve days; a second, recorded by Dr. Babington, was fatal in twenty-four days; one, by M. Barrier, in thirty-one days; and one, by Dr. Hughes, in forty-two days; whereas this case was fatal in eight days.

Case.—Marie Descurez, æt. 17, sempstress by occupation, tolerably plump, and her muscular system well developed, was admitted on the 15th August, 1812, into the Hôpital de la Charité, under the care of M. Rayer.

She had enjoyed good health until three months previously, when she had an attack of acute articular rheumatism. For this she was bled. No affection of the heart was noticed. On the 11th of the month preceding her admission into the hospital, she had menstruated for the first and only time. On the 11th of the month following, and eight days before her admission, she caught a severe cold in consequence of having got wet through in a walk, and on the next day the violent choreic symptoms declared themselves. No treatment of any momcnt was had recourse to.

On her admission into the hospital the face was somewhat pale, and the articulation very difficult, though possible after repeated attempts. The choreic movements were continual and very violent, particularly in the limbs. The senses were acute, and the intelligence, to all appearance, unimpaired. The movements prevented sleep, or only allowed very brief dozings, and they were so violent as to render it necessary to have some contrivance to keep the patient in bed. Opium in small quantities was ordered.

On the following morning, at five o'clock, the Sœur de Charité perceived no altcration in the symptoms. Two hours later the patient in the next bed noticed an abatement in the movements, and saw that the breathing had become laboured, and the face dusky. A quarter of an hour later, M. Laudet found her in the last agony, lying on her back, her limbs motionless and powerless, her face dusky, her pupils dilated, and her pulse small and frequent, and her heart beating faintly and feebly. Titillation of the nostril and ammonia vapours were tried in vain, and in a few moments the pulse had ceased, and all was over.

On the examination twenty-four hours after death, no alterations which could be related to the chorea were to be found. The heart was congested with dark blood, and so were some of the mucous membranes, as might be expected from the asphyxial symptoms preceding death; but the brain and cord, with their membrane, were quite healthy. Some slight adhesions in the anterior surface of the heart were the only traces of organic disorder.

Art. 32.—*On Ammonio-Sulphate of Copper in Chorea.*

By Hamilton Roe, m.d., Sen. Phys. to the Westminster Hospital.

(*Medical Times and Gazette*, Jan. 1, 1853.)

Dr. Hamilton Roe has recently employed this salt very successfully in the treatment of a series of cases of severe chorea, treated in the hospital wards, the patients being mostly children under 14 years of age. In several the sulphate of zinc and the susquichloride of iron had been tried previously, and without benefit. The dose given was from $\frac{1}{2}$ a grain to 3 grains daily. Its use in this complaint is not novel, although not often tested in this country. In Italy it has gained a considerable reputation, and is known by the name of the "Specific of Stissero."

Art. 33.—*Remarks on Hysteria in connection with Hydrophobia and other Convulsive Affections.* By John Dalziel, M.D.

(*Pamphlet*, Edinburgh, 1853, pp. 32.)

This paper was written by the author more than twenty years ago, and was sent for publication to the 'Glasgow Medical Journal,' in which an abstract of it was published in 1830. The author has now published it *in extenso*, in order to show that his views on hysteria and hydrophobia correspond with those lately promulgated by Dr. Marshall Hall. The following quotation expresses his meaning:

"1st. The *globus hystericus*, as well as the similar affection of the throat in hydrophobia, occasioned by the idea, &c., of liquids, is a spasmodic stricture of the muscles of the throat (*glottis*), whereby respiration is obstructed.

"2d. *Obstructed respiration*, whether *suspended* or *impeded*, occasions cerebral congestion, as well as that feeling of *general uneasiness*, designated *sensation of suffocation*, which attends the paroxysmal exacerbation in both the diseases under consideration.

"3d. Cerebral congestion, and the sensation of suffocation, separately or conjointly, may, especially in an irritable habit, occasion *convulsion*." (p. 6.)

With respect to hydrophobia, we may quote one or two passages which explain clearly enough the author's meaning:

"It is my express object to show that the convulsion is to be attributed entirely, though indirectly, to *obstructed respiration*, and not to the accompanying circumstance of the local spasm, or pain attendant on the spasm. The competency of obstructed respiration to occasion convulsion will be fully made out by establishing the second and third propositions; but the second term of the second proposition, and the first of the third, are also admitted. The only link awanting, then, to complete the chain, is the proof that obstructed respiration produces cerebral congestion." (p. 8.)

"If a cure for so horrible a malady is ever to be discovered, there is a rational ground for hope that the operation of *bronchotomy* will at least make one step of approximation towards it; and it will, at all events, afford the disease ample opportunity of fully developing itself, in its undisguised essential character, and place the patient in circumstances more favorable for the salutary operation of medicine." (p. 29.)

Art. 34.—*On Tracheotomy in Hydrophobia.* By George Fife, M.D., of Newcastle.

(*Lancet*, July 30, 1853.)

These remarks occur in a letter from Dr. Fife to the Editor of the "Lancet":—

In your journal for March 11, 1849, you obliged me by publishing a case of hydrophobia, with post-mortem appearances and remarks thereon. I am now led to address you in consequence of having seen some observations and suggestions on this fearful disease by that most justly celebrated physiologist and physician, Dr. Marshall Hall, in which he very strongly, and, as I think, *unwarrantably*, recommends the operation of "tracheotomy." As a reason for such recommendation, he asserts that the patient dies of "laryngismus," and that of this he "will not die if tracheotomy be performed." From this

assertion I entirely dissent, and for the following reason:—The laryngismus which he asserts is the cause of death in all cases of hydrophobia, I consider as a mere symptom or concomitant of the extensive lesions met with in the brain and spinal system. For proof of this I must refer your readers to my case. What real or permanent advantage could have resulted from the operation of tracheotomy in such a case I am utterly at a loss to imagine.

In hydrophobia the spasm of the glottis and the dyspnœa are *temporary*, and obviously arising from a cause essentially distinct from any primary or permanent affection of the larynx, trachea, or other organs of respiration. In fact, such affection of the respiratory system is a mere *effect*. Were this otherwise, I would, perhaps, subscribe to Dr. M. Hall's views. That gentleman affirms that all hydrophobic patients have died of laryngismus. This, with every possible respect for such an authority, I most emphatically deny. My little patient did not die of laryngismus, nor, if I know the disease so designated, did he ever suffer from it. He died from exhaustion, consequent on the frequent convulsions, which formed the prominent feature in the case, and which convulsions had their origin in a part of the system very remote from the larynx. This will be self-evident to any one who will be at the trouble of looking over the autopsy of my case. The only symptom in that case, which in the slightest degree tended to corroborate the opinion of Dr. M. Hall, was the presence of the tracheal râle: of this it may suffice to say that it was as evanescent as were the convulsions. In whatever mode the hydrophobic poison may act, and however enveloped in obscurity its *modus operandi* may be, one fact is abundantly proved—*i. e.*, that the nervous function is mainly affected, and, as the scalpel demonstrates after death, from a cause which admits of neither doubt nor denial.

On a reference to the post-mortem report, it will be found that the "larynx and trachea were healthy in every respect," whilst the appearance of the lungs is very readily accounted for by the constant recurrence of the spasms, which not only interrupted respiration, but to a looker-on appeared to threaten life.

Art. 35.—*Case of Epileptic Convulsions cured by the Internal Administration of Chloroform.* By H. Bowe, Esq.

(*Medical Times and Gazette*, Sept. 24, 1853.)

The following case possesses several points of interest:

Thomas Eason, aged one year and seven months, was placed under my care on the 7th of April, 1853, suffering from epileptic fits.

The previous history of the case, as obtained from the mother, is as follows:—When the child was five months old, she was awoke early in the morning by a scream, and then found him in strong convulsions, the face turgid, the mouth foaming, and the hands forcibly clenched. Being much alarmed, she took him to a medical man, who attended him for some time, but gave her no hope of his ultimate recovery, as he feared there was organic disease of the brain. He was subsequently attended by two other medical men; the fits at this period occurring from three to six times in the course of the day. The remedies prescribed seemed to affect neither their force nor frequency. As the mother could not afford to pay for medical advice, the child for some time continued in about the same state without any means being taken for his relief. At the time he first came under my care (April 7th) he frequently had seven or eight well-marked fits during the day. His appearance was very peculiar; the head being either constantly rolled from side to side, or thrown

backwards; his face had a vacant and almost idiotic expression. On looking into the mouth, I found the gums covering the upper incisor teeth tense and swollen; they were freely lanced, and an aperient powder given. The child to be put into a warm bath.

10th.—The fits had increased in frequency, the child was no better in any respect. As the gums were still rather tense, they were again freely incised, another warm bath ordered, as well as another dose of castor oil. As the child was continually rubbing his nose, I subsequently ordered him a powder of calomel and jalap, thinking, perhaps, he had worms. The bowels were freely relieved, but no worms were detected.

From this time up to April 20th, the fits increased rapidly, as many as eighteen occurred in one day, following each other in quick succession. In the short intervals between them he lay in a semi-comatose condition; for three days he took no nourishment whatever, and was evidently fast sinking from exhaustion. Seeing that everything done had failed to give even the slightest relief, I determined to give chloroform a trial.

I commenced giving it internally, in five minim doses, suspended in mucilage, directing the mother, after every fit, to give a dose of the medicine. On visiting the child the following morning, the 21st, I found that he had slept almost continuously since taking the first dose, and that there had not been any fit. He was quite sensible when awakened to take his food or medicine, of which three doses had been given in the course of the previous day.

I directed the mother to continue the medicine three times daily, and frequently to give small quantities of beef-tea and arrowroot. From this date the child improved rapidly up to May 6th, on which day he was very fretful, and evidently suffering from the irritation caused by the teeth, which had nearly penetrated the gums. The dose of chloroform was increased to seven minims, and a purgative powder to be given twice a week, after which he was much relieved. I ceased to attend him on May 20th. He was then perfectly well, never having had a return of the fits since the first dose of chloroform was administered.

July 18th.—I have this day seen the child; he continues in perfect health; has cut three teeth, and has not had any return of fits.

I am not aware that chloroform has hitherto been given internally in similar cases to the present. Of course, very little can be argued from a solitary case; but, perhaps, experience will prove that in convulsive affections, especially those of children, we have in chloroform a powerful remedial agent.

ART. 36.—*On the Treatment of Epilepsy.* By E. BROWN-SÉQUARD, M.D.

(*Philadelphia Medical Examiner*, April, 1853.)

Dr. Brown-Séquard's remarks upon this subject must be taken *cum grano salis*. It would be well, first of all, if he would be a little more explicit about the epileptic animals which he was good enough to cure. It would be well, also, if he would make it appear, that a person in an epileptic fit is in the same predicament as the poor animal which was tortured with knife and fire after its spinal cord had been half cut across. If he demurs to the objection to the laryngismal theory arising out of the presence of convulsions in cases of strychnia poisoning when the windpipe is opened, and of the absence of convulsions in many cases of hooping-cough and laryngismus stridulus when the larynx is closed, because the condition in these cases is not that of

epilepsy, may not exception be taken to his experiments, and on the same grounds? He writes—

I have made numerous experiments with regard to the treatment of this dreadful affection, and I intend to publish them, in extenso, when some points that are still obscure, have become clear to my mind. Here I will merely relate some of the most important results of my researches. As I have had the opportunity, during the last three or four years, of observing every day a great many animals (more than a hundred) which had a convulsive affection resembling epilepsy very much, I have been able to discover some very interesting facts, among which are the following:

1st. For each epileptic animal, the number of fits, in a given time, is generally in a direct proportion with the quantity of food taken.

2d. There is an inverse proportion between the amount of exercise and the number of fits.

3d. Cauterisation of the mucous membrane of the larynx is able either to cure or to relieve these epileptic animals.

The convulsive affection existing in almost all these animals was the consequence of a transversal section of a lateral half of the spinal cord in the dorsal or in the lumbar region.

I have already published the results of my experiments on epilepsy, in my lectures before large classes of physicians and medical students, both in France in 1851, and in America in 1852.

These results are in perfect accordance with the views of Dr. Marshall Hall in relation to epilepsy. As the views of this eminent biologist are generally known, I need not expose them, and I will merely remind my readers of the three following points:

1st. The first muscles that contract spasmodically in almost all, if not in all, the cases of epileptic fits, are those of the larynx and the neck; 2d, spasm of the glottis taking place then, produces suffocation, in consequence of which convulsions are produced in the trunk and the limbs; 3d, tracheotomy may prevent these convulsions by preventing suffocation, and it is known that in some cases tracheotomy has cured epilepsy.

It has been objected to Marshall Hall that in cases of poisoning by strychnine, convulsions take place even when a tracheal tube renders respiration perfectly free. This objection has no value, because the state of the spinal cord in epileptics is not the same as in men or animals poisoned by strychnine. Certainly the excitability of the spinal cord is greater in epilepties than in healthy persons, but the degree of excitability of that nervous centre is much greater in persons poisoned by strychnine than in epilepties; and, therefore, it is easy to understand that certain excitations are able to produce general convulsions in one case and not in the other.

If we give a very slight dose of strychnine to an animal, so as not to poison it, but merely to increase slightly the excitability of the spinal cord, there are no convulsions when we touch, or pinch, or burn the skin, but if we prevent breathing for a few seconds only, general convulsions take place, exactly as in epileptic men or animals.

It has been said also, in opposition to Marshall Hall, that a spasm of the glottis of the severest kind occurs in cases of hooping-cough, of spasmodic croup, and even of apoplexy, without the occurrence of any other convulsions. The answer to this objection is, that in epilepsy the spinal cord is more excitable than in these other diseases, so that the same kind of excitation does not produce the same effects.

A great many facts, that I will publish elsewhere, prove that black blood, very probably by its carbonic acid, is an excitant of the spinal cord and of the

medulla oblongata. When, as is the case in asphyxia, the blood is not oxygenated and deprived of the carbonic acid constantly produced in it, or received by it from different tissues, then the excitation made on these nervous centres becomes so powerful that convulsions are produced. This is found in men and animals, even in perfect health. If the asphyxia is complete, convulsions are not produced, unless the excitability of the spinal cord is greater than usual, and this is the case in epileptics.

In November, 1851, at the *Ecole Pratique*, of Paris, I published, for the first time, before a class of about forty young physicians and medical students, the results of my experiments as regards the cauterisation of the larynx in epilepsy. About eight months after, Dr. Eben Watson published a paper,* in which he says: "The treatment I would now propose instead of tracheotomy, is simply the application of a solution of nitrate of silver, varying in strength with the requirements of the case, to the glottis of the patient, with the view of diminishing the nervous excitability of the part in question. A similar treatment has been found by me remarkably successful in alleviating and removing, in a short time, the susceptibility of the patient to laryngismus, in cases of hooping-cough, and of spasmodic croup (*laryngysmus stridulus*), nor can I see any reason why a similar result should not ensue in chronic cases of epilepsy,"

The reasons given by Dr. E. Watson are partly the same by which I had been led long before him to perform the operation he suggests. But I had also some other reasons. It is perfectly known, in the actual state of medical science, that the greatest changes may be produced in the nervous centres, as well as in the nerves, by a very strong excitation of the termination of the nervous fibres in the skin or the mucous membranes. On this principle are founded many modes of treatment of some diseases of the spinal cord and of neuralgia. The application of caustics, blisters, cupping, hot iron, &c., is based on this principle. In accordance with it I am inclined to believe that epilepsy might be cured by a mere application of a hot iron to the skin of the neck; at least, I have had two guinea-pigs cured after such an application, repeated three or four times.

The operation of tracheotomy proposed by Marshall Hall has proved successful in some cases. But it is a dangerous operation, and if it is proved that another one much slighter can produce the same good effects, it ought not to be practised.

That other operation is the cauterisation of the larynx; it prevents the closure of the glottis, and thus is able to cure or to relieve epileptic patients as well as it cures some other diseases. Every learned physician knows that it is sufficient to cauterise the larynx once or twice to cure hooping-cough in almost every case. [?]

When the cause of the epileptic fits is excessive, and when the spinal cord is very excitable, to allow free breathing merely will not be sufficient to prevent the general convulsions. But their violence, if respiration is free, will be deprived of all the effect that would be produced by the excitation of black blood if breathing did not take place.

The distinction made between organic and inorganic epilepsy has not the importance that some writers seem to admit. There are alterations in the nervous system in both cases, and the only difference is, that these alterations can be easily seen with the naked eye in one case and not in the other. I ought to point out that the cases of epilepsy in animals, which I have cured, were cases of organic epilepsy. These animals have been cured, although the

* Remarks on Dr. M. Hall's Theory of the relation of Laryngismus to Epilepsy, in 'London Journal of Medicine,' July, 1852, pp. 641-43.

apparent and primitive cause of the disease, *i. e.* a section of a lateral half of the spinal cord, continued to exist.

The cauterisation of the larynx on these animals was made every day, or every other day, and sometimes during two or three months. In some cases, the relief having been immediate, the cauterisation was made only twice a week. One of the animals experimented on was cured after three or four cauterisations; but the number of cauterisations necessary has been generally very much greater. When I left France in February, 1852, I had cured about a third of the animals treated by this method; and all the others, except two or three, had been very much relieved, and certainly many of them would have been cured if the treatment had been prolonged.

I knew that an animal was cured, not only by the absence of spontaneous fits, but when I could not produce a fit by giving great pain. I had found that on an epileptic animal, except immediately after a paroxysm, I could very easily produce a fit by exciting pain, and more particularly by pinching or burning the skin of the face or neck. So that I am authorised to believe, that when a fit was not produced by pinching or burning the face, it was because epilepsy had ceased to exist.

Some physicians in this country have already tried on man the mode of treatment that I have found so successful on animals. From what I know of the results of their attempt, it seems to me that man is like animals in this respect. There has not been yet a complete curation; but, except in one case, there has been a very considerable diminution in the frequency and the intensity of the fits.

As physicians who have to treat epileptics have not to make experiments, but to cure by making use of all the best means together, I think that the treatment of epilepsy ought not to consist merely of the cauterisation of the larynx. The plan of treatment I should suggest is the following:

1st. A cauterisation of the larynx with a strong solution of nitrate of silver (at least 60 grains to the ounce), every day, for at least five or six weeks.

2d. A cauterisation of the skin of the neck over the spine, with a hot iron, once a fortnight, for about two or three months.

3d. Exercise and gymnastics.

4th. The use of oxide of zinc or ammoniated copper, remedies which a very respectable physician of Geneva (Switzerland), Dr. Herpin, has found successful in many cases, when their dose has been considerable.*

5th. If in a fit of epilepsy the suffocation is very considerable, the operation of tracheotomy ought then to be performed immediately.

Art. 37.—*Report upon the Cases of Tetanus in the Jamjetjee Jejeebhoy Hospital, Bombay, from January, 1845, to December, 1851.* By J. Peet, Assistant-Surgeon to the Hospital.

Trans. of the Med. and Phys. Society of Bombay, No. 1, New Series, Bombay, 1853.

Mr. Peet informs us, that during this seven years, 195 cases of tetanus were admitted into the hospital, exclusive of some 70 or 80 persons who were attacked subsequently to their admission, making the whole number treated during this period, about 260. This is the largest number of cases of tetanus treated in any single hospital in

* See his admirable work 'Du Pronostic et du Traitement de l'Epilepsie,' Paris, 1852. Ouvrage couronné par l'Institut de France.

the world. Mr. Peet has carefully analysed this collection of cases, and the following are his conclusions:

1st. That the idiopathic form of tetanus is much more frequent in Bombay than in other parts of the world; and that, contrary to the experience of the disease in other places, it is more severe and fatal than the traumatic species.

2d. That it is often traceable to direct exposures at those seasons during which there are the greatest alterations of temperature.

3d. That of the traumatic form many cases are ushered in by distinct febrile symptoms; but there is not sufficient reason to conclude that this constitutional disturbance is evidence of any more decided state of inflammatory action in the nervous centres than is present in cases where febrile symptoms are altogether absent. Nor would it appear that this febrile state is any indication of the severity or acute nature of the attack.

4th. That there is little doubt there exists in tetanus, as in most other diseases, a period of incubation, but there are no facts to determine the length of time over which that state may extend.

5th. That in many cases the more marked symptoms are preceded by a peculiar expression of face, to which sufficient prominence is not, perhaps, usually given, as a means of detecting the approach of the disease, and that this changed expression may exist for several hours before any other symptom of tetanus is present.

6th. That no reliance can be placed upon the frequency of the pulse as evidence of the severity or otherwise of the attack; but the condition of the pulse, in regard to strength, is of much importance.

7th. That hurried respiration and dysphagia almost invariably indicate a fatal termination.

Mr. Peet remarks, in regard to the various modes of treatment pursued, "that the result has been nearly the same in each; namely, that of leading to the conviction that there is no one mode of treatment better than another in the management of this disease." He would, however, except from this general statement the assiduous use of nutritious food; this should be considered an essential element in whatever plan is adopted, for on this, rather than the medicines employed, will the favorable termination of the case depend. "The inhalation of ether and chloroform," he says, "has been well tested. That it affords great, and for a time complete, relief, there cannot be a question, but it has not appeared to have any influence in preventing, or even delaying, the fatal termination." The majority of cases were treated with preparations of the Indian hemp, but Mr. Peet does not consider it superior to other narcotics. The report closes with a table of all the cases treated during this period.

ART. 38.—*A Case of Poisoning by Strychnia relieved by Chloroform.* By G. L. UPSHUR, M.D., Surgeon to the Marine Hospital, Norfolk, U. S.

(*Philadelphia Medical Examiner*, June, 1843.)

The smallness of the dose of the poison, and the marked effects of the chloroform, are both features of interest in the following case:

On the 30th of March, 1853, I was called to see the child of Mr. F—, sick with chronic diarrhœa. It was born on the 2d of January, and consequently was not quite three months old. When less than two weeks old, its bowels became disordered, and I had frequently prescribed medicine for it from the description given of the case by the father. It took first one simple astringent and then another, with now and then an alterative dose of calomel; but nothing seemed to exercise any permanent control over the affection. The child thus became, in a short time, much emaciated and enfeebled, and I was requested to visit it on the 30th of March. I found it feverish, thirsty, and restless, with a movement of the bowels every hour or two, and scarcely any digestive power left. The milk was passed from the bowels in the same state as it left the stomach, and there were frequent nausea and vomiting. I ordered one of the following powders three times a day:

℞ Ext. Krameriæ, gr. xv;
Pulv. Dover., gr. xii;
Pulv. Rhei, gr. vj;
Strychniæ, gr. 1-5th.
M. Chart. 12.

In the course of two or three days there was a manifest improvement in the condition of the patient; the nausea ceased, the dejections became less frequent and more natural, and the mother's milk seemed to agree as it never had done before. The powders were continued until twenty-four had been taken, when they were discontinued, and I left the child fairly convalescent.

On the 14th of April the father came to my office to say that the child's bowels had again become disordered, but there was no fever, and it was very sprightly. I ordered a *tea*spoonful of infusion of rhubarb with six drops of paregoric, to be given three times a day.

On the 20th there had been no improvement, and I was requested to visit it. Finding it in nearly the same condition that it was on the 30th of March, I determined to give the strychnia again, and in larger doses. The following is the prescription:

℞ Pulv. Dover., gr. xv;
Cretæ Prep., gr. xxx;
Pulv. Rhei, gr. viii;
Strychniæ, gr. ½.
M. Chart. 15. S. A powder three times a day.

The child took the first dose at one o'clock; at two the mother discovered that it was becoming very restless—frequently starting, as it were involuntary, and now and then becoming quite rigid. These symptoms gradually increased in violence until four o'clock, when I was sent for, the messenger informing me that the child had strong convulsions. Arriving in a few minutes, I found the patient lying in the lap with almost every muscle in the body acting spasmodically. The spasms were tetanic, with very short intervals between the paroxysms. There was no heat about the head, nor, indeed, any feverish action, and the child's intellect was perfectly clear, as was evinced by the cry of suffering which was uttered between the paroxysms, and the earnest look for relief cast upon every person around it. The spasms resembled more nearly than anything else, a violent shuddering, or agitation of the whole frame, the hands being tightly clenched, the body bent backwards, and the limbs immoveably rigid.

I immediately ordered a mustard plaster to be applied down the spine, and while I went for some chloroform, directed equal parts of brandy and water

to be freely given. I was absent half an hour, and on my return found the convulsions more violent, if possible, than ever. Fifteen drops of chloroform were sprinkled on a towel, folded in the shape of a funnel, and applied over the patient's mouth and nose. In four minutes she was fully under the influence of the remedy, and snored aloud. The towel was removed, and as soon as consciousness began to return the spasms also began to reappear, when it was again applied. The child was thus kept fully under the influence of the chloroform for *four* hours, at the end of which time, there being no tendency to a recurrence of the convulsive movement, the remedy was discontinued, the entire quantity inhaled being f℥ss.

For two days afterwards the child had frequent bloody, slimy stools, accompanied by a good deal of pain and fever; but these symptoms yielded readily to a blister on the abdomen, and nitrate of silver enemata, with laudanum. The child is now in better health than she has been since her birth, being four months old on the 2d instant.

Art. 39.—*On Ether or Chloroform in Tetanus.* By L. Woodworth, M.D. (U. S.), and F. J. Lowes, M.D.

(*New York Journal of Medicine*, May, 1853, and *Medical Times and Gaz.*, May 21, 1853.)

The two subjoined cases agree with the case of Dr. Dusch, of Mannheim, recorded in our last volume (p. 63), in showing the advantages likely to result from etherisation or chloroformisation in this malady, though their evidence is not quite so satisfactory and conclusive as might be desired. This mode of treatment, however, is not always successful, for three cases are referred to in p. 165, No. 5, of Schmidt's 'Jahrbucher' for the present year, in which the chloroform failed to resolve the spasm, and avert death. The particulars of these cases are not given, but from what is said the symptoms appear to have been relieved.

1. Dr. Woodworth's Case.—Barber Weeks, æt. 18, while adjusting a band on the drum of a wheel in a steam saw-mill, was caught by the shirt sleeve, and his forearm having been drawn between the cogs of the opposing wheels was severely lacerated. The accident occurred on the 23d of September, 1851. On the 10th of October, seventeen days after the injury was received, he began to complain of rigidity of the muscles of the neck and at times of a difficulty in respiration, with a sense of tightness in the præcordia. These continued to increase in severity until the third day, when the whole system became subject to spasms, and tetanus was fully developed. The spasms came on in paroxysms in the form of opisthotonos: the jaws were brought forcibly together, and the tongue so severely bitten, as to make it necessary to introduce a wedge of soft wood between the teeth. Slight causes would excite the paroxysms, such as being roused from sleep, moving the injured arm, &c. A profuse perspiration covered the body during the whole course of the disease.

In consultation with my friend Dr. Hurd, an experienced physician, it was resolved to put the patient upon the use of morphine and brandy, and if necessary employ strychnine; accordingly a quarter of a grain of sulphate of morphia was given every two hours, and brandy *pro re nata*. The stimulants did not act favorably and were discontinued; the morphine seemed to alleviate the symptoms slightly; no cathartics were administered, and there was no

movement of the bowels for upwards of a week, when ten grains of calomel were given, followed in a few hours by two drops of croton oil. No evacuation having been obtained, an enema of castor oil and spirits of turpentine was administered, which had the desired effect. In addition to other treatment, frictions to the spine were employed, but with no better success.

The most important point in the history of this case, however, and that for which I am induced to communicate it, is the agency which ether exerted over the spasms. On the third or fourth day of the attack this anæsthetic was resorted to with the happiest effect; a small open-mouthed bottle, filled with cotton saturated with ether, was applied to the nostrils at every recurrence of spasms, and produced complete relaxation. Chloroform was used with nearly the same effect, but the patient from some cause preferred ether. The paroxysms continued for eight or ten days without any abatement of their severity, except temporarily from the use of the ether, when they gradually began to subside, returning at longer intervals and with diminished force, and soon after entirely disappeared.

2. Dr. Lowes' Case.—On February 21st, I was summoned to a young man, residing about two miles from Gosport, who I was informed, had met with a severe accident, from the explosion of a gun. On my arrival I ascertained that, in getting through a hedge, he had placed the muzzle of the gun under his left arm, and a small branch had caught the trigger, when the contents were discharged in his arm. He had since been removed home, being very faint from hæmorrhage. On examination, I found that the charge had entered the inner side of the arm, producing a comminuted fracture of the humerus; and making its exit by lacerating the deltoid and triceps muscles, which were protruding beyond the integument. On passing my finger into the wound, I found the bone so much splintered, that I feared I should be obliged to amputate at the shoulder-joint; and the hæmorrhage was likewise increased, though I ascertained that the brachial artery was not wounded. I therefore sent for my friend, Dr. M'Kechnie, of Haslar Hospital, to consult as to the propriety of the operation. On his arrival, I made a further exploration with my finger, and discovered that, in all probability, I should be able to save nearly three inches of bone; and we agreed that such would be the proper course to pursue. Dr. M'Kechnie then placed him under the influence of chloroform; and, while I made an anterior and posterior flap, he compressed the artery, and reflected the flaps. I found, on sawing the bone, that quite three inches of it remained unsplintered; and, having secured the brachial artery, and one small branch, I brought the edges of the wound together by sutures; and, having placed him in bed, and administered an opiate, I left my pupil to watch him for two or three hours till my return. The patient went on favorably; and, on the fourth day, the dressings were removed, when the wound looked healthy, although the suppuration was very considerable. I ordered a mutton chop and some porter every day, and gave him an opiate almost every night, he being unable to sleep whenever it was omitted. He continued to improve till the nineteenth day, when his mother imprudently allowed him to eat a quantity of cake; and, in the evening, he was attacked with delirium, but slept well after midnight. On the day following, suppuration had nearly ceased, the granulations looked healthy, and the wound was healing rapidly; but he was suddenly seized with violent trembling during the process of dressing the wounds, and, the day following, felt some pain in the neck, which he thought was rheumatism. Two days afterwards, he mentioned it to me, and said, at the same time, that he felt some difficulty in opening his jaws. I immediately

administered a strong purgative, as well as a draught containing one drachm of tincture of opium. At one o'clock, p.m., a message was brought me that he was dying. I found that he had had several attacks of violent spasm, attended by a feeling of suffocation; viscid mucus was issuing from the mouth, and he was bathed in cold perspiration. I immediately removed the dressings, and applied a bread-and-water poultice to the stump, and then placed him under the influence of chloroform, likewise rubbing it down the spine, on the epigastrium, throat, and over the regions of the temporal and masseter muscles. This relieved him from the violence of the spasm, and he was able to open his mouth to the extent of nearly half an inch, when I administered half a drachm of the tincture of Indian hemp, made after the formula of Dr. O'Shaughnessy. The stomach instantly rejected this, when I gave him one drachm of Battley's solution of opium, in some sherry wine, and, an hour afterwards, once more placed him under the influence of chloroform, and ordered him an enema of castor-oil and turpentine, desiring that his legs and abdomen might be rubbed with turpentine. On my visit in the evening, I found the bowels had been relieved; but he had been unable to take any food, and the spasms had been very severe, causing him frequently to bite his tongue, which was not, however, much coated. I once more placed him under the influence of chloroform, and applied it externally as before; and once more tried the Indian hemp, which his stomach rejected again directly. I therefore gave him half a drachm of the liq. opii in wine, and left two doses to be administered during the night, at intervals of four hours. The following day (March 17th) I saw him at seven, a.m. Has had a restless night, dosing at times; but the spasms followed in such quick succession, as to be constantly waking him. I placed him again under the influence of chloroform, and ordered him an embrocation, consisting of chloroform, extract of belladonna, and soap liniment, to be rubbed on the spine, throat, chest, and abdomen, several times a day, and repeat the liquor opii. Two, p.m., has had several spasms, dosing in the intervals. Put him under the influence of chloroform, after which the jaws were separated about half an inch. Gave him beef-tea with a spoon. Ordered him an enema, composed of beef-tea, with castor-oil and turpentine, and the following pills:

℞ Camph. gr. xij;
Morph. acet., gr. ij;
Quinæ disulph., gr. viij;
Ext. hyoscyam., q. s. Ft. pil. viij.
Sumat unam tertiâ horâ quâque.

Nine, p.m., spasms rather less; placed him again under the influence of chloroform; much difficulty in swallowing the beef-tea; bowels slightly open; gave him some wine.

18th.—Seven, a.m., passed a better night; spasms rather less. Continue the beef-tea, wine, and pills. In the afternoon, found the spasms more violent; was perfectly rigid, in a state of opisthotonos; cold perspiration. Put him under the influence of chloroform, when he was again enabled to swallow his beef-tea. Nine, p.m., rather less spasm, but violent cramp in the muscles of the leg, and painful stiffness in the back.

19th.—Had a restless night, but with less spasm. Continue the embrocation and pills, also beef-tea and wine at intervals. One, p.m., feels very exhausted; spasms frequent. Nine, p.m., cramp in the legs increased; the abdominal muscles perfectly hard.

20th.—Has had a better night; able to take the beef-tea and wine; has some appetite. Continue camphor, pills, and embrocation. Bowels confined.

℞ Olei crotonis, gtt. j ;
Ext. colocynth. comp., gr. x. Ft. pil. ij.
Statim sumendæ.

21st.—Bowels well open ; less spasm ; has eaten some toast. Continue the medicine, beef-tea, and wine.

22d.—Much better, but bowels confined. Repeat the pills with croton oil. Continue the other medicines.

23d.—Has had a restless night, with slight spasm ; stiffness of back and jaws remains ; bowels well open.

He continued to improve up to the 29th of March, when he only complained of painful stiffness of his muscles, the spasmodic action having ceased, when he was allowed to sit up. He discontinued the camphor and morphia pills, excepting at night. The bowels were kept open by an occasional purgative. Mutton diet.

April 3d.—All pain and stiffness had left him. Ordered him to go out the following day.

7th.—He was out walking when I called, quite well, and the stump healed.

In this case I believe the chloroform to have been the most effective agent, as the spasmodic action was always lessened after its application. The Indian hemp did not appear to succeed, as it always induced vomiting. The patient derived much benefit from the croton-oil purging, and the nervous irritability seemed to be allayed by the combination of the morphia, quinine, and camphor. His pulse was not much affected by the disease, excepting during the paroxysms, and he had no difficulty in voiding his urine. The ligatures came away on the twenty-third day. I found it necessary frequently to visit this case, to see that my orders were carried out; and my best thanks are due to Dr. M'Kechnie, to whom I am much indebted for his kind and able assistance. I was induced principally to use the chloroform, owing to a case of chorea of three months' standing, which came under my care about a twelvemonth since, having been cured by it. The patient was a boy, about ten years of age, who was never at rest, day or night, from the constant twitchings of his muscles, and, at last, lost all power in the lower extremities, so that I feared some lesion of the cerebro-spinal system had taken place ; and, as all the usual remedies had been tried unsuccessfully, I determined to use chloroform ; when, after applying it about three times a week to the spine and epigastrium for about a fortnight, the boy got perfectly well, and has had no relapse.

Art. 40.—*On Progressive Muscular Atrophy.* By M. Cruveilhier.

(*Archiv Gén. Med.*, Maie; and *Medico-Chir. Rev.*, July, 1853.)

M. Aran has described, in the 'Archives Générales,' ('Abstract,' vol. XIII, p. 10,) a form of muscular paralysis, under the term "progressive muscular atrophy;" and M. Thouvenet has described the same lesion under the title "atrophic muscular paralysis." Since 1848, this form has been familiar to M. Cruveilhier; and in the present memoir various cases of it are related.

The first case was that of a lady, æt. 40, with general paralysis, more marked in the upper than in the lower extremities, and unaccompanied by lesion of sensation, or alteration of intellect. Death ensued by extension of the paralysis to the diaphragm and laryngeal muscles. A profound lesion of the spinal cord was diagnosed, but after death the nervous centres were found to be perfectly healthy.

The true nature of the case was not recognised, and M. Cruveilhier, not content with the term "névrose," given to the case by other physicians who witnessed it, accused pathological anatomy of want of power to recognise some lesions of the brain and cord.

The second case was that of a man, æt. 18, with general paralysis, sensation and the intellectual faculties being unaffected. An affection of the anterior column of the cord was diagnosed, but after death the cord was found perfectly healthy. The muscles were carefully dissected, and were found to be atrophied in two ways, viz., by simple atrophy, and atrophy with fatty degeneration. The state of the nerves was not examined.

In the third case there was gradual muscular atrophy and paralysis, with retention of intellect and sensation. In addition to the paralysis there were tremors, or little convulsive shocks, of the muscles of the extremities, as long as the atrophy was not complete. There was also, occasionally, a kind of general trembling or shivering. Death finally ensued from general bronchitis, and "œdematous pneumonia." Many of the muscles were atrophied and in a state of fatty degeneration, exactly resembling, as M. Cruveilhier remarks, the state of the muscles described by Dr. Meryon, in the last volume of the 'Medico-Chirurgical Transactions.' M. Mandl, in drawing the microscopic appearances, produced plates precisely similar to those of Dr. Meryon. The brain was perfectly healthy; so also was the spinal cord and the posterior roots of the nerves. *But the anterior roots, especially in the cervical region, were found to be greatly diminished in size: in fact, atrophied.* This condition was traced till the union of the roots; in the conjoint nerve on the distal side of the ganglion no charge could be detected; the trunks forming the brachial plexus, and this plexus itself, were healthy. The nerves running in the thickness of the muscles were, however, atrophied; and this was traced most exquisitely in the tongue, of which there had been perfect paralysis. The lingual (gustatory) nerve was well nourished and of proper size, but the hypoglossal (motor) nerve was extremely atrophied; many of its branches seemed to consist of nothing but neurilemma.

M. Duchenne had electrolised this patient, and found that as the paralysis advanced, the muscles became inexcitable.

M. Cruveilheir remarks on these three cases, that the first case showed only paralysis without disease of the nervous centres; the second, more completely examined, exhibited great muscular atrophy and degeneration; while the third, still more carefully dissected, showed, in addition, atrophy of the anterior roots and of the muscular branches of the nerves. He remarks, also, that the clinical history and the morbid anatomy exactly accord. There is conservation of intelligence, and want of disease in the brain; conservation of sensation, and the cord and posterior roots are unaffected; paralysis of motion, and the motor nerves and muscles are atrophied.

But what is the connection between the atrophy of the muscles and of the nerves? Which is primary and essential?

The coincidence of nervous and muscular atrophy cannot properly be regarded as an exceptional case; nor, in all probability, is it a simple coincidence. Cruveilhier, after referring to the rapidity with

which the atrophy occurs; to the great influence of the nerves; and to a case (of Dupuytren's) in which atrophy of one half of the tongue succeeded compression of the hypoglossal nerve by a cyst; regards as demonstrated, that the atrophy of the nerves is the primitive lesion and the atrophy of the muscles is consecutive, and a consequence merely of diminution of function.

But what is the cause of the nervous atrophy?

Here observation at present fails, and future clinical experience must solve the problem. M. Cruveilhier believes that he has accomplished one step of progress in showing the implication of the nerves. How the nerves become implicated must now be learned.

ART. 41.—*Additional Experiments on the Excitability of Paralysed and Healthy Limbs by the Galvanic Current.* By R. B. TODD, M.D. F.R.S.

(*Lancet*, Aug. 6, 1853.)

In the summer of 1847, Dr. Todd submitted to the Medical and Chirurgical Society of London the results of experiments tried with the view of testing the accuracy of Dr. M. Hall's dogma, that limbs paralysed by lesion of the brain became more excitable than the healthy ones by the galvanic current, in consequence of an increased irritability of the paralysed muscles. The present communication comprises the results of experiments to determine the difference on the influence of the current according to its direction, and also to ascertain whether any real difference of physiological effect exists when the galvanic trough, or the magnetic-electric or electro-dynamic machine, is used. Thirteen healthy individuals were subjected to experiment, and with the following results:

1st. That the obvious physiological effect was produced only on completing, or on interrupting, the galvanic circuit.

2d. That more vigorous contractions were excited on the completion than on the interruption of the circuit.

3d. That the completion or the interruption of the direct current produced more vigorous contractions than the completion or interruption of the inverse current.

These experiments were made with a Cruickshank's battery, charged with very dilute sulphuric acid. The magneto-electric rotation instrument and the coil machine (electro-dynamic) were afterwards used, and it was found that the same effects precisely were produced, and the same variation in the intensity of the contractions according as the current was direct or inverse. Fifteen cases of hemiplegic paralysis, caused by lesion of the brain, are afterwards detailed. The results of the galvanic experiments on these cases were as follow:

1st. That of the fifteen cases, in only three was there any approach to a greater excitability of the paralysed than of the sound limb, and that in two of these it was manifested only under the influence of the inverse current.

2d. That in three of the cases both the coil machine and the

battery were used, and with precisely the same results; and that, in one of the cases, the coil machine alone was used, and with a result which corresponded with those obtained in similar cases by the galvanic battery.

3d. That in each of the three cases in which a greater excitability existed in the paralytic limbs, the paralysing lesion in the brain was more or less of an irritative kind. In one case, the irritation was probably connected with an incipient process of cicatrisation.

4th. That in many of the experiments all degrees of galvanic power were used, and with no other difference than that of degree; the amount of physiological effect being exactly proportionate to the power of the galvanic stimulus.

(B.) CONCERNING THE RESPIRATORY SYSTEM.

ART. 42.—*Note on the Breathing-Movements in the Two Sexes, and the alleged Influence of Stays in producing Pulmonary Consumption.* (Excerpt from a Clinical Lecture.) By W. H. WALSHE, M.D., Fellow of the Royal College of Physicians, London; Professor of Medicine and Clinical Medicine at University College, London, &c.

(*Medical Times and Gazette*, April 9, 1853.)

Here, then, gentlemen, is a woman (labouring under dilatation of the heart, with probable tricuspid regurgitation, and old pericarditis, general bronchitis, congestion, and œdema of both lungs), whose maximum thoracic respiration-movements are translated from the upper to the lower regions of the chest. Her breathing-play is inferior-costal and abdominal, instead of being infraclavicular. She breathes under the influence of her complicated malady as the healthy male, and may be said to be *unsexed, quoad respiration*, by her disease. Observe, however, that this perversion only holds in *calm* breathing; the moment she takes a *forced* inspiration, the infraclavicular regions rise abruptly, fully, and equably, (she is non-tuberculous, be it remembered,) after the type of health. In the state of forced respiration she breathes—at least in the present point of view—precisely as both sexes breathe when the contents of the thorax are sound.

What is the cause of this perverted condition of breathing-movement in the female, when labouring under certain thoracic diseases? A preparatory point to determine is, the *how*—and, if possible, the *why*—of the difference in the calm breathing-movements of the sexes in health. And to this preliminary question we will confine our inquiries to-day.

The healthy calm breathing of the male is essentially effected by the descent of the arch of the diaphragm; the amount of abdominal is greater materially than of pectoral expansion-movement; and the former commences sensibly before the latter, which is, besides, confined almost exclusively to the lower ribs. The male action is inferior costo-abdominal. But is not the ordinary breathing of the female carried on by similar play of the diaphragm? Judging from outward appearances, no. In the female the abdominal expansion is almost null, and always slightly posterior in point of time to the upper costal; neither do the lower ribs move notably, whereas the clavicles

and infraclavicular regions rise and fall with freedom. The male seems to the eye to breathe with the abdomen and lower ribs from the sixth downwards; the female with the upper third of the chest alone. These statements refer to adults only.

To adults only, I say; for it is yet a point *sub judice*, whether, and to what proportional extent, the discrepancy of adult life prevails in infancy and early youth. I have examined a considerable number of female children, aged between four and ten years, who had never worn stays, or any substitute for these, and found in them the predominant infraclavicular action of the adult. But the excess of upper movement is very positively less than among their seniors. On the other hand, Boerhaave, one of the earliest observers of the difference in the respiratory action of the sexes, speaks as though the boy and girl of "one year old" breathe as distinctively, the one with the abdomen, the other with the chest, as the full-grown man and woman.* *Per contra*, Beau and Maissiat affirm, that in earliest infancy, and often up to the third year, the respiration is abdominal in the female as well as in the male.† It has appeared to me, too, that in earliest youth, when the pectoral and ventral modes of breathing become obvious, the chest-action in the female is more *general* than at a later period, and less limited to the upper regions. Age, then, does seem to me to exercise an influence upon, or to be connected with the typical breathing of the sexes.

Social position exercises none; the washerwoman and the peeress breathe exactly alike.

The habit of forced breathing is not without modifying power on the calm action in both sexes. For instance, the extensive play of the upper regions in full-chested *soprani*, kept up in the exercise of their art for many hours daily, ends by increasing the amount of infraclavicular movement in ordinary conversational breathing. It has appeared to me, that, even in *tenor* singers, some perversion of the ordinary condition—some degree of unnatural infraclavicular movement—may be detected in calm respiration.

But what influence does dress exercise? Looking at an adult female, and remembering her habit of drawing in the lower ribs by apparatus more or less unyielding, the inference seems unavoidable, that the reason why a woman does not breath like a man is, that her mode of dress mechanically obstructs phrenic play. Certain mischiefs entailed by tight lacing we see positively in displacement of the liver; in misshapement of it, so that its height is made to exceed more or less its breadth, (as ascertained the other day, for instance, in the body of E. Smith, University College Hospital Female Case-books, vol. ix, p. 130;) in alterations of its texture, so that true lobular substance is replaced to a greater or less depth by induration-matter functionally inert. We see them exhibited in displacement of the heart,—in narrowing of the lower intercostal spaces, &c. And if, from certain of the facts concerning age just passed in review, we are forced to the admission, that the activity of infraclavicular respiration-movement in the female is in the main designed by nature, and independent of extraneous influence, still I cannot help thinking that the great excess of that movement, and the limitation of thoracic play to the upper thorax in the civilized adult female, are due in no small measure to the use of unyielding cases interfering with inferior costal and phrenic action. The agricultural female labourer, who knows not stays, breathes more like a male than the town female. Besides, during sleep, the conditions of pectoral and ventral action in the female are much less strikingly different from those

* Prælect. Academ., § 623, t. v, p. 144. Ed. Haller, Amst., 1744.

† Arch. Gen. de Méd., Dec., 1842.

in the male than in the waking state; the waist is relieved for a time from constriction. And, further, the male and female dog breathe almost exactly alike, as do also the horse and mare; the action is abdominal and lower costal.

It would seem, then, that stays are in part productive of the peculiarity of adult female breathing, but certainly are not its sole cause. Boerhaave, and his commentator, Haller, however, holding that the sexual difference obtains from birth, looked upon the free upper costal action in the female as a pre-ordainment to meet the difficulties of pregnancy. "Nisi hanc," says Boerhaave, "in fœminâ diversitatem natura fecisset, gravidæ perpetuâ dyspnœâ laboravissent, æque ac viri hydropici." But it seems here to be forgotten, that if the illustration be sound, ascitic females ought to escape dyspnœa. The final cause of the difference in the sexes is of less interest, however, than the mechanism by which it is actually worked out; but of this also, nothing is known. Haller ascribed the predominant costal action in females to the greater flexibility of their bones and cartilages (Op. cit., pp. 98, 145). The upper interspaces are relatively wider in the female, the lower in the male; but is this effect, or cause, or neither one nor the other?

I have just reminded you of some of the evil influences exercised by the use of tightly-laced, unyielding stays on the liver. Do they inflict mischief on the lungs? It appears to me this will altogether depend on the amount of constriction. If this be simply sufficient to transfer the maximum chest-play from the base to the apex of the thorax, (or, rather, to magnify somewhat the breathing difference superiorly and inferiorly natural to the female,) I cannot very clearly descry what evil is to come to the lungs, especially if the stays be cut bias, and be formed of yielding material. If, on the other hand, rigid wood-work or metal plates be used to stiffen stays of which the main material is hard and cut straight, then it is conceivable, *à priori*, that serious evil may come to the lungs. Remember, however, the wide difference in the statical and dynamic mechanism of the thorax and abdomen, and you will feel at once that the fact of serious compression of the liver being produced by tight lacing gives no shadow of proof that the pulmonary organs must suffer to similar amount, or even in similar fashion. I know not, as matter of clinical experience, what the mode of disturbance is which constriction of the base of the chest actually and demonstrably entails on pulmonary action or pulmonary structure. But such ignorance as this is not commonly avowed; on the contrary, the mass of information on the point is held to be positive and of ominous, most ominous, quality. Dr. Copland, for instance, writes, in a recent and otherwise admirable article, that the use of stiff stays produces "ultimately a morbid state of the blood, *tubercular deposition, especially in the lungs*, hæmoptysis, anæmia, &c." But it may be fearlessly asserted, that neither Dr. Copland, nor any other man living, could prove that the abuse of stays produces the specific disease tubercle. I look in vain for evidence of such power in the writings of those who most loudly proclaim its existence; declamatory passages, arguing *à priori* from a loose physiology to a yet looser pathology, are all I have ever succeeded in finding—at least, with one seeming exception—a seeming one only. Mr. Farr, in truth, speaks thus: "Thirty-one thousand and ninety English women died in one year of the incurable malady, consumption. Will not this impressive fact induce persons of rank and influence to set their countrywomen right in the article of dress, and lead them to abandon a practice which disfigures the body, strangles the chest, produces nervous or" [this "or" is probably the "&c." of Dr. Copland] "other disorders, and *has an unquestionable tendency to implant an incurable hectic malady in the*

*frame."** Strange, Mr. Farr should forget to compare the relative mortality of the sexes in elucidating this question. Look at this table giving the mortality from consumption in three years to a million living of each sex in England and Wales:

YEARS.	Deaths from Phthisis to 1,000,000 living of each sex.	
	Males.	Females.
1837	3,771	4,155
1838	3,783	4,077
1839	3,722	4,015

What evidence does this table give of the dependence of tuberculisation on stays? It simply shows that the phthisical mortality of females is somewhere about 300 per 1,000,000 living greater than that of males. Granting that the female excess is really due to stays, what scientific justification does its amount give of Mr. Farr's startling phrases? None, absolutely none. But let me assure you, no particle of evidence exists that the moderate excess of female destruction is really traceable to the abuse of stays. Not a few arguments might be adduced, tending to prove their absolute innocence. Thus in France, as is well known, females rarely use stays until the afternoon; in England, women tighten themselves up the moment they rise in the morning; yet the excess of female phthisical mortality over the male is greater in France than in this country. Again, in certain parts of Europe, the men tighten themselves at the base of the chest, so as to produce a tolerably fair image of the figure of a wasp, and yet they do not seem thereby to increase their relative quota of phthisical mortality. Further, it will be conceded, that tight-lacing is, as a rule, pushed to greater lengths among metropolitan than among rural female populations; so that, if the influence assigned to stays be other than a figment of the brain, the plus destruction of women over males ought to be relatively greater in London than in the country. Now, such evidence as I can get at tells in precisely the contrary direction. Thus, examine these figures:

Kent County.

YEAR.	Males.	Females.
Population in 1841	232,228	236,885
Absolute deaths from phthisis	726	778
Deaths from phthisis per 1,000,000 living	3,126	3,242

Metropolis.

YEAR.	Males.	Females.
Population in 1838	913,077	971,767
Absolute deaths from phthisis	4,057	3,630
Deaths from phthisis per 1,000,000 living	4,443	3,735

* Letter to the Registrar-General, 1840, p. 73.

So that actually, where, by fair inference, the amount of stay-constriction is greatest, and its prevalence widest, (in the Metropolis,) females are destroyed by phthisis to a less degree than males; whereas, amid a country population, which we may honestly assume to undergo a less mean amount of tightening females die consumptive in notably larger proportion than males.

No, gentlemen, if the abuse of stays produces consumption, its power to do so most indubitably remains to be proved; and while the laws of an enlightened pathology point to the excessive improbability of an essentially diathetic disease springing from a mechanical cause, I entreat you not to adopt the popular creed, that "stays cause consumption," unless on direct and unimpeachable logical evidence. There is quite enough in the demonstrable evils entailed by tight-lacing to justify you in warning against the abuse; you have no need to support your arguments by the unfair appeal to an imaginary mischief.

Art. 43.—*On the possible Prevention of Consumption and Scrofula by Oil Inunction and Inhalation.* By Professor Simpson.

(*Edinburgh Monthly Journal*, April, 1853.)

In a recent communication to the Edinburgh Medical and Chirurgical Society, Professor Simpson brought forth some evidence to show that the children and young persons employed in wool factories were unusually exempt from scrofulous disease and from pulmonary consumption. This exemption he is disposed to ascribe to the continual inunction and inhalation of oil, large quantities of which are used in these factories.

Art. 44.—*Note on a Tympanitic Sound, produced by Percussion of the Lung, when partially condensed.* By W. O. Markham, M.D., Assistant Physician to St. Mary's Hospital.

(*Edinburgh Monthly Journal*, Aug. 1853.)

Two *post-mortem* observations have lately fallen under Dr. Markham's notice, which illustrate, or rather demonstrate the truth of the fact, already noticed by him, *that the percussion sound of a partially condensed lung is clearer than that of a healthy lung.*

This is a fact of considerable importance, for, as Dr. Markham asks in a note at the end of his paper, "is it not a fact of constant observation, and corroborated by auscultation, that in the *early periods of phthisis* the percussion sound is clearer in the subclavicular space over the affected lung than elsewhere." This is one illustration.

In the one case, the left lung was found reduced by the pressure of pleuritic effusion to about one fourth or fifth of its natural size; its lower lobe being *completely*, and its upper lobe *partially*, consolidated.

In the other case, the *partial* consolidation was general throughout both lungs; it was caused by the effusion within them of the products of inflammation, excited by the rapid and extensive deposition of miliary tubercles. Now, when in these two cases the lungs, thus differently circumstanced as regards the nature of the disease affecting them, were removed from the bodies after

death, placed side by side, and percussed, it was observed: That the *partially* condensed upper lobe of the pleuritic case, and every part of the lungs invaded by inflammation in the other,—especially the posterior parts, where the consolidation was most advanced, and the lungs contained the least amount of air,—yielded a remarkably clear percussion sound, which, in both cases, as far as the ear could judge, was exactly alike in its characters; the sound was that to which, for want of a better, I have affixed the term "hollow," in the paper above referred to: it is clear, high-pitched, empty, of a tympanitic character, and somewhat metallic; the vibrations of sound producing it appear superficially distributed, ceasing quickly, and not passing deeply. Perhaps it would be most convenient to designate the sound as "tympanitic," for I believe that this word is rarely in practice used to indicate merely a drum-like sound, as its origin would require; the term "hollow" is objectionable, and for an evident reason.*

The left side of the thorax of the patient attacked by the pleuritic effusion yielded, two days before her death, a completely dull percussion sound at every part; and the heart was found beating to the right of the sternum. To relieve the great difficulty of breathing induced by this copious and sudden effusion of serum, a very fine trochar was introduced into the pleural cavity, and about twenty ounces of fluid withdrawn therefrom, by the aid of an exhausting syringe. Great care was taken that no air entered into the pleura, and that none did I am satisfied, having assisted at the operation. Temporary relief was thus afforded the patient; and now, immediately after the operation, on percussion beneath the clavicle, we found, instead of the completely dull percussion sound observed previously, a remarkably loud, clear, tympanitic sound—so marked, indeed, as to lead an observer to suppose that air had found its way into the chest. That there was no necessity for our thus calling in the presence of air to give reason for the sound, we had the demonstrative proof after the patient's death, when the body was examined. No air escaped from the pleura, but on puncturing the left thorax a large amount of fluid gushed forth, and when a certain amount had escaped, the partially condensed lung floated forwards against the upper and anterior walls, and its percussion now both within, and when removed from the thorax, yielded a character of percussion sound, *exactly similar to that which it had offered during life*, after a portion of the pleuritic fluid had been withdrawn.

I did not observe, during life, the nature of the percussion sound of the thorax in the case of partial consolidation, produced by tubercular inflammation, but it nevertheless well illustrates the fact I am alluding to.

The conclusions which I am justified in drawing from these cases are:—

1st, That Skoda's assertion, that a *partially* condensed lung yields a clearer and more tympanitic percussion sound than a healthily inflated lung, is correct.

2dly, That Dr. Williams's mode of accounting for this "trachcal" sound, as he calls it, viz., by supposing that the upper part of the lung is compressed against the anterior walls of the thorax by the fluid behind, and thus being consolidated, transmits, when percussed, the hollow sounds of the large tubes, is not correct, at least in all cases, for here was an instance in which *every part* of the *partially* consolidated upper lobe yielded equally well the tym-

* The lungs were taken from two patients under the care of Dr. Chambers and Dr. Sibson, at the St. Mary's Hospital. I would remark, that the fact here mentioned was observed by several gentlemen connected with the Hospital, and its truth admitted by all of them. One gentleman was impressed with the idea, that there must have been a "hollow" within the upper compressed lobe of the pleuritic case, from the peculiar character of the percussion sound which struck upon his ear.

panitic percussion sound, and so also when divided to show the absence of all hollowness or large tubes.

3dly, That the sound, so far from of necessity indicating the presence of air in the pleura, is a sign that the lung contains less than its normal amount of air.

One important practical deduction, if I am not mistaken, naturally flows from these facts, viz., that in certain cases of pneumonia, *if not in all*, when the consolidation of the lung has reached a particular stage, *but not yet that of hepatization*, the percussion sound over the affected portion, so far from being duller, *is actually clearer than natural.* The error of diagnosis into which a misinterpretation of this fact may lead the physician is manifest enough. it may induce him at a critical period of the disease, viz , when the lung is on the eve of complete consolidation, to prognosticate a commencing return to its healthy condition.

Art. 45.—*Pathology of the Bronchio-Pulmonary Mucous Membrane.* By C. Black, m.d.

(*Pamphlet*, Part I, Edinburgh, 1853.)

In a recent number of the Association Medical Journal, Dr. Black gives the following abstract of his researches, so far, at least, as they bear upon the pathology of pulmonary consumption. We shall return to this subject when it is completed.

Assuming that the first substantive deflection from the standard of perfect health is in a deficient vitality of the formative elements of the blood, the origin, manifestation, and progress of pulmonary consumption are briefly enunciated by Dr. Black in the following propositions :

1. That pulmonary consumption observes three stages.
   - *a.* The stage of Local Predisposition.
   - *b.* The stage of Deposition.
   - *c.* The stage of Germination.

2. That the stage of local predisposition is characterised by more or less excess of blood in the pulmonary capillaries of the affected part; that it corresponds to the first pathological condition of bronchitis and pulmonary cellulitis; that the degree and extent of this local predisposition vary considerably; and that the resulting phenomena bear a proportionate ratio in point of severity and appreciability.

3. That the stage of deposition is attended by increased exudation from the pulmonary capillaries; that this exudation is incapable of entering into structural relation with the pulmonary tissues; that it leads to a more or less rapid thickening of the basement structure of the bronchio-pulmonary membrane; that it likewise accumulates in the intervascular and intercellular spaces; and that the pulmonary tissue is thereby more or less consolidated.

4. That the first appreciable sign of the stage of germination is a shedding of the epithelium of the affected portions of lung; that this epithelium does not attain perfect mucus-cell development; that in cases in which the deposition has been slow, it (the epithelium) is more granular than are properly developed mucus-cells; but that

the epithelium is still more granular in cases of rapid tubercular deposition.

5. That the epithelium thus shed is not, in progressive tubercular disease, replaced; that, so long as a particle of healthy basement structure exists, the nuclear points of that structure attempt to replace such lost epithelium; but that this properly vitalised basement structure failing before such attempt at the restoration of the epithelium has succeeded, the latter is now cast off in the form of basement patches, which show, here and there, a germinating point.

6. That the tubercular deposit undergoes, during germination, more or less development into cells; that this growth constitutes the "softening" of authors; that it takes place contemporaneously throughout each isolated and individual mass of tubercle; that it, therefore, does not first commence at either the centre or circumference of the exudation; but it proceeds more rapidly at the circumference, because at this point the conditions of cell growth are more favorable than at the centre. At the circumference, therefore, plastic and pus-cells abound; at the centre, exudation-cells.

7. That in the cheesy-looking portions of tuberculous sputum there are very frequently indeed portions of nerve tubes, and occasionally of lymphatic vessels and of the minute bronchi; that, in other portions of such sputum, plates of cholesterine, the colouring matter of the bile, cystine, and urate of ammonia, are occasionally seen by the microscope.

8. That the microscopic appearance of the nerve tubes thus expelled shows that the nerves do not terminate in loops upon the pulmonary mucous membrane, but in bulbous expansions, to be hereafter depicted.

9. That the foregoing observations show pulmonary consumption to consist in abnormal nutrition, and to be essentially analogous, in its steps, to inflammation; but that the term "inflammation" would be inapplicable to it, inasmuch as it fails to explain the cause of the deficient vitality of the blood-plasma, which constitutes the essential nature of tubercle.

Art. 46.—*Case of Laryngeal Polypus.* By Dr. G. Tourdes.

(*Gaz. Méd. de Strasb.*, Jan. 24, 1853; and *Dub. Quar. Jour.*, Aug. 1853.)

In a recent monograph upon this class of cases, Prof. Erhmann, of Strasburg, has collected the particulars of thirty-one cases, all of which, with one single exception, were fatal, and this case is still the single exception. The result might have been different, Dr. Tourdes thinks, if timely tracheotomy had been resorted to.

Aloïse Saint-Julien, aged seven years, was admitted into the Orphan's Asylum at Strasburgh, after the inundation of the month of September, 1852. He was a child of feeble constitution and of lymphatic temperament, affected with goitre, and presenting some of the features of cretinism. From information, which was not obtained until after his death, it appeared that he had been for some time subject to attacks of dyspnœa, which imperiled his life;

and when his relatives heard that he had ceased to exist, they expressed no surprise; they expected, they said, that he would die of suffocation. Soon after his arrival in the Asylum he took ill, being seized with very severe fits of coughing, attended with symptoms of impending asphyxia; on the 16th of November he was transferred to the Clinique for children's diseases, where I saw him for the first time. On entering the hospital the patient exhibited intense anxiety; at times asphyxia appeared to be imminent. During the attacks of dyspnœa the respiration was loud, sibilant, spasmodic, and accompanied by a hoarse cough; expiration seemed much more painful than inspiration. The paroxysm terminated without expectoration. During the interval between the attacks the dyspnœa invariably continued well marked; the voice was hoarse, altered, but never entirely lost; the cough was frequent, raucous, and sibilant, without expectoration. Auscultation showed a remarkable diminution of the respiratory murmur in both lungs, without any *rale*. Respiration was sibilant in the trachea and larynx. The throat and upper part of the pharynx showed no trace of false membrane; a little redness alone was visible. Pressure on the larynx externally gave no pain; no swelling could be discovered; the lymphatic glands of the neck were not enlarged. The skin was hot, and the circulation very much hurried. What was the cause of the impending asphyxia? The difficulty of diagnosis was increased by the absence of all information as to the boy's previous history. The first idea which occurred to me was that there might be a foreign body in the windpipe. On careful investigation, however, none was found; the patient's statements, too, were inconsistent with such an hypothesis. Was it a case of croup? The majority of the symptoms militated against this supposition. No trace of abscess was found in the larynx or its neighbourhood. There was no indication of œdema of the glottis. An acute idiopathic laryngitis might produce some of the symptoms, but could not explain all. By exclusion we arrived at the hypothesis of a laryngeal polypus, but the absence of all information as to the patient's antecedents removed one of the most valuable elements of diagnosis. In this uncertainty I took the opinion of my friend and colleague, M. Stoeber; he also thought that there was an obstacle to the passage of air in the larynx; that it was difficult to state its precise nature; but that tracheotomy was indicated as the most rational means of safety.

We referred the matter to our able operators MM. Rigaud and Wieger. Deterred by the obscurity of the diagnosis, they hesitated, and, finally, expressed themselves against the operation. They reminded us that all the operations of tracheotomy, performed in the Strasburg hospital under analogous circumstances, had been followed by fatal results; we did not persevere in endeavouring to overcome their scruples; they were based on too serious motives, and we had not the elements of complete conviction to oppose them. The idea of tracheotomy having been abandoned, the indication now was to endeavour to destroy the obstacle which seemed to be placed at the entrance of the larynx; two means were employed,—emetics in divided doses, and cauterization applied as directly and as deeply as possible. Tartar emetic was given at intervals; burnt alum was blown in; the back of the throat was touched with solution of sulphate of copper. Recourse was also had to mercurial frictions. All these measures were unavailing; the dyspnœa diminished for a few moments to re-appear with renewed intensity; the cough was constantly dry; the voice hoarse and sibilant, but not more changed than at the commencement. Intense fever soon set in; the patient experienced severe pains in the chest; the oppression became constant; the respiratory murmur was scarcely perceptible. A very acute double pleurisy was added to the original affection; the strength rapidly gave way, and on the 24th of Novem-

ber, eight days after his admission, the patient expired in an attack of dyspnœa, aggravated by the pulmonary complication, but evidently due, like the preceding attacks, to the lesion of the larynx.

The autopsy revealed the presence, under the glottis, of one of those vegetations which are known by the name of laryngeal polypus. A reddish, tolerably soft tumour, studded with protuberances, of the size and form of a flattened strawberry, occupied the left ventricle of the larynx, and extended over the arytenoid cartilages, to the right ventricle, which was intact. The posterior and left lateral portions of the glottis were closed by this polypus, which occupied about three fourths of the opening. This tumour was attached to the larynx by a very wide base; with this exception, it had much resemblance to the vegetations represented in M. Ehrmann's Plates, No. I, fig. 2, and No, II, fig. 1. The thyroid glands were highly developed, and united in front of the trachea. A thick layer of false membranes, soft and albuminous, covered the two pleuræ; the pulmonary tissue was simply congested; the bronchi contained a great quantity of frothy mucus; the mucous membrane itself was healthy. This case is suggestive of several remarks. If the previous history of the patient had been known, the diagnosis would have been based, we may believe, on evidence sufficient to remove all opposition to the operation of tracheotomy. But, in the absence of all such information, the symptoms left the case doubtful. If we examine, in fact, the several cases of laryngeal polypi which have been published, we shall see that the course of the disease, and the gradual development of the symptoms, have furnished the signs which have determined the diagnosis. Authors do not describe any pathognomonic character; to the symptoms which indicate that the obstacle to the entrance of the air has its seat in the larynx, they add, as more direct proofs, the *bruit de soupape;* the fact of expiration being more difficult than inspiration; the expectoration of fragments of the polypus; the touch, too, if the foreign body has passed the epiglottis. But all these characters may be wanting, and most frequently it is the duration and the progress of the disease which remove uncertainty and confirm the diagnosis. In the present case this element of proof was altogether absent. The existence of the goitre might have rendered tracheotomy difficult, but if performed in time the operation would, without doubt, have prolonged the patient's life. The double pleurisy, which accclerated his death, was but slowly developed. There was no organic contra-indication. The obstacle to respiration was situated in the larynx; the trachea having been opened, the air would have reached the lungs without impediment. The performance of the operation would have been, however, but the first part of the task; the second would have presented serious difficulties. To have effected a radical cure, it would have been necessary to destroy the polypus by cauterization, or to remove it by excision. In this, undoubtedly, we should have had the example of M. Ehrmann's successful case; having prevented asphyxia by opening the trachea, our learned colleague divided the larynx and cut away the polypus, interposing an interval of two days between the two operations. In my patient the tumour was attached to the larynx by a very broad base, which would have further increased the difficulty of cure.

Art. 47.—*On Spasmodic Asthma.* By Eben Watson, M.D.

(*Glasgow Medical Journal*, April, 1853.)

Dr. Eben Watson sums up his views upon the nature and treatment of asthma in the following manner :—

1st. That very many cases of bronchial asthma have their origin in laryngeal disease; that some remain for a variable period, as a spasmodic affection of the glottidean muscles, and that in all cases of the disease in question, although the bronchi have long been affected, the chief contraction still occurs in the larynx.

2d. That if this contraction at the glottis be in any way overcome, that of the smaller bronchi either simultaneously or speedily relaxes.

3d. That the usual remedies employed in cases of spasmodic asthma, are either such as are directed against the complications of the disease, and not against its proximate cause, or such as have been found in practice incapable of accomplishing its removal. The latter are therefore useless, and the former unfit to fulfil the indication referred to above.

4th. But this indication may be answered more or less perfectly in different cases, by the application of a solution of caustic of moderate strength (gr. xv., or ℈j to ʒj) to the glottis, which is the organ chiefly affected.

5th. Cardiac asthma, as it is called, does not usually depend proximately on simple spasmodic contraction of the bronchial tubes, but rather on vesicular emphysema. Cases of this kind are therefore unfit for topical treatment.

6th. Electricity passed in gentle currents, as much as possible along the bronchial tubes, may be found to diminish their contractility; and repeated small doses of strychnia may likewise co-operate with the other means of treatment, probably by withdrawing the nervous energy to other parts, at a distance from the affected air tubes.

Art. 48.—*Inhalations of Ethereal Solution of Tolu in Chronic Catarrh.* By M. Roziere.

(*Schmidt's Jahrb.*, No. v, p. 165, 1853.)

For some time past M. Roziere has successfully employed these inhalations in cases of bronchial catarrh, loss of voice, or almost any chronic affection of the chest. He mixes twenty grammes of the balsam in sixty grammes of sulphuric ether, and places them in a wide-necked bottle, and out of this he causes the patient to inhale the vapour by placing his nose to the open neck for two or three minutes, every half hour. The statement is taken from the 'Revue Thérapeutique du Midi,' but no particulars are given.

Art. 49.—*On Intermittent Pneumonia.* By M. Constant, m.d.

(*Bull. de Thér.*, xliii, 1853; and *Medico-Chir. Rev.*, Oct., 1853.)

Dr. Constant, practising in one of the marshy districts of the department of the Lot, draws attention to the signs which distinguish what he terms intermittent pneumonia, as when they are overlooked the disease proves rapidly fatal.

1. The initial shivering is usually more intense and prolonged than in ordinary pneumonia. 2. The pleuritic pain is felt early and always in front of the chest, although the pulmonary congestion is almost always localised posteriorly. It is much more amenable to blisters than to leeches. 3. Violent cephalalgia is one of the earliest symptoms, being either frontal or sincipital, and it is often accompanied by severe lumbar pain, which observes the same stages of increase and decrease as itself. 4. The shivering is followed

by intense heat, which after several hours gives place to abundant sweating. 5. The pulse, during the paroxysm, in place of being full, strong, and vibrating, as in ordinary pneumonia, is rapid, soft, undulant, and compressible. 6. There is never any purulent expectoration, these pneumonias never proceeding beyond the second stage—*i. e.*, red hepatization, the pulmonary engorgement being rather a sanguineous congestion than inflammation. 7. Auscultation and percussion are of the highest value, often revealing the disease when unsuspected. A distinctive feature is the rapid passage from the first to the second stage of the disease, so that eight or twelve hours after auscultation had revealed only a slight circumscribed *râle*, a whole side will be found hepatized. Under the influence of large doses of quinine this rapidly disappears, giving way to returning subcrepitant *râle* during the remission of the fever, but returning again during the paroxysm if this have not been cut short. 8. The crepitant *râle* of the first stage is almost always moist, the parchment-crackling *râle* only having been heard for a short period two or three times in more than sixty cases. It invades large surfaces rapidly, being heard posteriorly, sometimes laterally, but never in front. 9. This form of pneumonia especially affects the posterior part of the lower lobes. 10. It especially appears in summer and autumn, while ordinary pneumonia prevails in spring and winter. 11. It attacks all ages indiscriminately, except early infancy. 12. The blood which flows from a vein is often below the normal temperature, very black, and deficient in plasticity. After rest, its surface acquires a bluish colour, especially if the patient is taking quinine. The clot is slow in formation, and soft. The buffy coat is absent, or very thin, and inclines to a bluish colour. This condition of the blood, conjoined with the soft pulse and rapid hepatization, constitutes the chief distinctive sign of the affection.

In this district, during winter, purely inflammatory pneumonia is met with; but in proportion to the high temperature and the production of malarial emanations, this inflammatory element is replaced by the paludal one. There are indeed three forms met with:—1. Simple pneumonia; 2. Spring inflammatory pneumonia, complicated with the intermittent paroxysm; 3. Summer and autumn intermittent pneumonia. The first requires bleeding and antimony; the second antiphlogistic treatment with quinine, given either simultaneously or subsequently; and the third, quinine in combination with external revulsives. These forms may still undergo further admixture, according as the inflammatory or paludal element prevails, requiring appropriate modification in the treatment.

Art. 50.—*On the Utility of Paracentesis Thoracis.* By M. Schnepf.

(*Archiv. Gén. de Méd.*, Oct. 1853.)

M. Schnepf relates four cases to show the safety and utility of this operation in certain cases of pleuritic effusion, and in this way he increases the evidence already existing to that effect. He ridicules the fear lest air should find entrance into the chest, and asks what is air in comparison with the medicated injections which (as experience has shown) may be introduced into the cavity of the pleura with impunity. He even thinks that the admission of a small quantity of air may do good by facilitating the escape of fluid.

ART. 51.—*On the Utility of associating Iodated Injections with Paracentesis Thoracis in certain cases of Pleuritic Effusion.* By M. ARAN.

(*L'Union Médicale*, Nos. 98, 99, 102, 103; 1853.)

In a series of articles published in this journal, M. Aran gives at length the particulars of three cases, of which the following are short abstracts.

CASE 1.—*Chronic pleurisy, with abundant effusion, dating from* 15 *to* 18 *months, treated successfully by a single operation.*

Br—, æt. 24, by trade a locksmith, was admitted into the Hôpital de la Pitié on the 20th of Oct., 1852. Before his illness his general health had been pretty good. His illness began eighteeen months ago in the form of catarrh and low fever. After eight months of indisposition he had an attack of severe pain in his side, followed by scarlet fever, and abscess in one of his legs. He had been variously treated without any benefit. On admission into the hospital his general condition was satisfactory; no fever, no dyspnœa, no pain, but with unmistakeable signs of abundant effusion on the left side—his heart beating under the right nipple, and his liver and spleen protruding considerably below their proper places. The operation was performed on the 21st of October, when $2\frac{1}{2}$ litres of greenish-yellow inodorous pus were evacuated, and an injection of 100 grammes of distilled water, 50 grammes of tincture of iodine, and 4 gr. of iodide of potassium introduced. The patient experienced no inconvenience, and after the syringe was removed, he turned about vigorously in all directions, in order that the injection might come in contact with all parts of the pleura. No fluid followed the removal of the canula. Immediately after the operation feeble respiration and crepitation were heard all over the left side, where no sound had been audible previously. Two hours later, symptoms of iodism declared themselves, such as dryness of the nostrils, and profuse flow of tears, but these passed off shortly, and the patient recovered rapidly and without interruption.

CASE 2.—*Acute pleurisy, consecutive upon typhoid fever, and terminating in suppuration; operation; spontaneous opening of the wound, and discharge of pus; operation several times repeated; subacute peritonitis; death.*

The patient, a female, æt. 24, was admitted into La Pitié on the 25th of March, 1853. She was suffering from typhoid fever. Acute pleurisy of the right side set in on the commencement of April; three weeks later the right pleura was entirely distended with fluid; at this time the pulse was 120, the breathing 36, and the cough constant and harassing. The operation was performed in the seventh intercostal space, and 1300 grammes of phlegmonary pus evacuated. The symptoms of iodism were less marked than in the last patient.

26th.—The wound made by the trocar re-opened, and a considerable quantity of pus escaped, with some relief to the patient, but still the inflammatory symptoms continued.

28th.—A free opening was made into the pleura, through which the air entered freely, and 250 or 300 grammes of pus were evacuated. Afterwards 100 to 125 grammes of pure tincture of iodine were injected, and this injection continued night and morning afterwards. There was no improvement, however, and the pulse quickening, and vomiting supervening, the patient sank on the 5th of May. On examination, about an ounce of sero-purulent

fluid was found in the affected pleura, free from all sanious odour, and signs of peritonitis with puriform effusion were found in the abdomen.

Case 3.—*Hydropneumothorax of more than three months' duration; operation; removal of the effusion; puncture without injection; operation twice repeated after an interval of three months; marked amendment.*

The patient in this case was 26 years of age; six years previously he had had pleurisy, The existing symptoms of pleuritic effusion had continued for three months, without any relief from the usual treatment. The operation was performed on the 19th of September, and 2½ litres of yellowish serum evacuated; severe symptoms of iodism followed—frontal cephalalgia, swelling of the eyelids, injection of the eyes, dryness of the throat, salivation, &c., but these subsided after a little time. Immediately after the operation the lung was found to have expanded to a considerable extent. The effusion, however, returned, and necessitated two repetitions of the operation during the course of the following three months; but eventually the symptoms were mastered, and now the patient may be considered as cured.

Art. 52.—*Sudden Death from Plugging of the Pulmonary Veins in a Pregnant Lady.* By E. Smith, M.D. L.L.B.

(*Medical Times and Gazette*, June 11, 1853.)

This case is one of great rarity and interest, and its value is enhanced by the accompanying comments.

"On Sunday evening, April 24th, I was urgently summoned to see a lady who was reported to be delirious. On arriving at the house, I found that she was dead, and had been so fully twenty minutes. She was a patient of Mr. Bartlett and Dr. Jackson, of Notting Hill, and was altogether unknown to me. I found that she was about twenty years of age, a little above the middle size, well developed, and in good condition, and within a few days of the term of utero-gestation of a second child. She had been perfectly well until within ten minutes of her death, except that she had complained of some pain and tenderness on the inner side of the left thigh, and, to relieve this, had been directed to lie in a recumbent position. She had eaten a very hearty dinner at three p.m., and tea at six p.m., and was full of spirits throughout the day, and up to nearly eight p.m. She had worn the stays used by pregnant ladies, even when lying upon the bed, contrary to the directions of her medical adviser; and it is probable that they were well laced. The child was known to be alive on Saturday Evening, but nothing could be learned as to its vitality on Sunday. While lying upon the bed, dressed, and with her stays on, and in excellent spirits, she suddenly uttered a shriek, and flung her arms about wildly, and cried, "Oh, my head! I cannot breathe! I am going mad!" and also, "Give me my breath!" This continued for about five minutes, during which time her hand was placed upon her chest; and then she became calm for a moment, and said to her husband, "There, Charles, I am better," and expired. The face was deeply livid, and the body bent, so that the chin approached her knees. When I saw her, the face was blanched, and she lay stretched on the bed. Having learned several of these particulars within a few minutes after my arrival, I became anxious as to the propriety of performing the Cæsarian section, to save the child; but, since so long a period had already elapsed after the death of the mother, since I had neither stethoscope nor scalpel with me, having been summoned from church; since, moreover, I

knew nothing of the case previously, and could not fully persuade the husband and friends of the reality of their loss, I determined not to perform it.

By the kindness of Mr. Bartlett, I had the opportunity of assisting Dr. Jackson and himself at the *post-mortem* examination, forty hours after death, and of making the requisite microscopic investigation of the tissues. The features had lost somewhat of their pallor, and a fluid, very slightly sanious, was exuding from the mouth and nostrils. The under part of the body, as it lay on the table, was not only greatly congested, but presented many well-marked, purplish-black petechiæ. The left leg was not swollen or inflamed. The blood was black, and fluid universally, except in the pulmonary veins, where the whole tube was filled by a cylinder of coagulum, having a central clot of blood, enclosed by two layers of condensed fibrin, the outer one of which was colourless, and the whole so firm in texture, that it could be handled and pressed with impunity. It was not strongly adherent to the lining membrane of the vein. The number of white corpuscles was considerably beyond the normal standard. The heart was flaccid, and rather enlarged on the right side. The tissue was undergoing the process of granular degeneration, or the first step of the process of fatty degeneration, and more particularly on the right side. The left side was empty—without coagula, even. The right ventricle contained, and the right auricle was distended with, fluid black blood. The valves were healthy. The arteries were preternaturally small, so much so that the aorta at its bifurcation could not admit the end of a small little finger, and the capacity of the external iliac was not greater than that of a swan's quill. Neither blood nor coagula were found within any of them, nor were any of them ruptured. The veins were immensely and universally distended, and appeared to be as much larger as the arteries were smaller than the natural size. The inferior cava was fully an inch and a quarter in diameter. The most remarkable enlargement, however, was in the ovarian veins; but whether this enlargement was greater than is usual at the full term of utero-gestation, before labour has commenced, I cannot tell. They were about twelve inches in length by three-quarters of an inch in breadth, and passed in a curved direction from the ovarian plexus in the broad ligaments, along the iliac fossæ, to the front of the vena cava on the right, and to the renal vein on the left side. The left was the larger of the two. The right one had thinner coats, so that the dark blood within it was more evident, and terminated by an opening so constricted, that a crow-quill could scarcely be introduced into the vessel from the vena cava. There was a bulging of the vessel directly on the side of the vena cava, viz., close to the constricted opening into the cava; and the trunk of both vessels was of even diameter throughout. A careful examination showed that the inner coat of these veins had not given way. The stomach and intestines were enormously distended with flatus, and contained fæcal and partially-digested matter. There was no odour of hydrocyanic acid. The uterus was normally developed and entire, but its parietes were flaccid. The placenta was very readily detached, and was bloodless, and had not undergone the degenerative process. The membranes were unbroken, and the os uteri perfectly closed. The child (a male) was somewhat small, and the cuticle peeled from the subjacent parts on very slight pressure; but there were no other signs of commencing decomposition. The ovaries were healthy. The diaphragm was pushed upwards to the level of the fourth or fifth rib, thus greatly diminishing the capacity of the thorax. The lungs were much collapsed, and crepitus on pressure was but slight. Numerous bubbles of extravasated air were scattered over the surface, directly under the visceral layer of the pleura, and more particularly on the left lung, towards the base. The discoloration on the posterior and inferior

aspects was much greater than is usually met with as a *post-mortem* occurrence. The tissue was somewhat readily broken up on pressure, but no rupture of the structure was evident. It contained very many granular corpuscles; but, since the blood was fluid, with no appearance of pus, and contained, in other parts, an unusual quantity of white corpuscles, it is probable that these cells were not exudation cells, but white corpuscles of the blood. The pleural cavity, on the left side, contained about three ounces of a deeply tinged sanious fluid, without coagula. On the right side, the quantity was smaller, and the fluid less discoloured. The sinuses and larger veins of the brain were very turgid. The substance of the brain was of normal consistence, and had not been lacerated; it was slightly congested. There was no effusion at the base, or in the ventricles of the brain, neither any remarkable congestion of the choroid plexus. The tissues throughout the body indicated a somewhat unusual degree of flaccidity.

On a review of the symptoms and *post-mortem* signs, the following thoughts naturally occur to the mind:—The mode by which death supervened was that of suffocation. The general flaccidity of the tissues, with the degenerative process proceeding in the centre of the circulating system, and the presence of an increased quantity of white corpuscles in the blood, indicate an atonic condition of system, one especially liable to take on deranged nervous action, and likely to succumb under the influence of a violent shock. May the enlargement of the veins be in any degree attributed to the diminished size of the arteries? The venous congestion was probably of some duration, and accompanied or caused by the absence of the accustomed degree of bodily exercise, the horizontal position in which she had of late indulged, the large size of the veins, the condition of the blood, the pressure of the gravid uterus, and the lacing of the stays. This congestion would be greatly increased, probably, by the two hearty meals which had been taken within the four and a half hours preceding the death, and the enormous distension of the intestinal canal. The extravasation of air under the pleura, the injection of the parenchyma of the lung with fluid venous blood, and the petechiæ on the skin, would be due to the violent death-struggles. The effusion of bloody fluid into the pleural cavity would arise from the last-mentioned cause, added to those of the fluidity of the blood and the congestion of the lungs. The cause of the fluidity of the blood is not very evident; but it may be owing to a combination of three attendant circumstances, viz., the condition of the blood, the rapidity of the process of dying, and the suffocation. The special exception to the fluidity of the blood observed in the plugging up of the pulmonary veins by coagula, accompanied by great distension of the venous system, and the venous side of the heart, and the emptiness of the arterial system and left side of the heart, cannot but attract attention. I am fully impressed with the inherent difficulty attending the solution of the problem, as to how far the formation of such coagula may be simply an attendant occurrence of the act of dying, or how far the coagula should be regarded as giving rise to those symptoms which indicate approaching death; that is to say, whether they be really a cause or an attendant of the act of dying. Since coagula are so frequently found as dying or *post-mortem* occurrences, we cannot but regard with suspicion any opinion favouring the supposition, that, under any circumstances, they are true causes of death. Without being dogmatical, however, I am inclined to think that the special exception formed by them in this case, the fact that the clot had time to form two envelopes of condensed fibrin, the outer one of which was quite free from the presence of red corpuscles, in a death so sudden and rapid, would almost suffice to induce us to regard them as a cause, and not an attendant occurrence of the death. The greatly diminished capacity of the

chest, induced somewhat suddenly, perhaps, by the distension of the stomach and intestines, would impede the action of the lungs, and, by lessening the quantity of inspired air, cause a retardation of the sanguineous current, and thus tend to the formation of the coagula. If this view be a correct one, we may readily account for the sudden origin of violent and fatal symptoms. Without such an explanation, while I can see abundant cause for death, I cannot find the occurrence which gave rise to the fatal symptoms at a distance of two hours from the last meal, and not an hour and a half earlier.

(c) CONCERNING THE CIRCULATORY SYSTEM.

ART. 53.—*On Permanently Slow Pulse.*

By BENJ. WILLS RICHARDSON, ESQ.

(*Dublin Quarterly Journal*, Nov. 1852.)

Mr. Richardson, in this paper, relates cases of slow pulse from Heberden and from other sources, past and present, and from their history argues that the slowness was symptomatic of a large, dilated, weakened, and most probably, a degenerated heart. He then gives two cases which came under his own observation.

CASE 1.—Mr. W—, æt. 78, a gentleman of sedentary habits, in the year 1850, when standing before the fire, suddenly became faint, and fell, but recovered immediately; he had no unpleasant after-symptom, and was able to resume his professional occupation next day. In some days afterwards, however, he remarked that whenever he made any exertion, his breathing became oppressed, particularly by walking or ascending stairs.

August 5th, 1850.—Pulse only 38 in the minute, and jerking; visible pulsation of the brachial, radial, carotid, and temporal arteries, which are thrown out in bold relief; dulness in the cardiac region, more extensive than natural; heart's impulse pretty strong,—a muffled *bruit* accompanies its first sound, which is audible at the apex, and becomes very distinct over the aorta. After each beat of the heart, "there is a species of commotion of the organ, as if another pulsation was attempted." His face is pale; tongue foul; appetite bad; stomach flatulent; ankles œdematous; urine scanty, high coloured, acid, and free from albumen.

In consultation with Mr. Adams, it was agreed that our treatment should consist in diuretics, a nourishing diet, with a liberal quantity of wine and Seltzer water; and we ordered him to abstain as much as possible from muscular exertion, and to limit himself to driving.

On the 27th of August, 1850, his pulse had fallen to 32; he became considerably oppressed in his breathing; his appetite was very bad, and he was very weak. His treatment consisted in the administration of tinctures of bark and columba, with Brandish's solution; and he was ordered to have the following draught always at hand, in case the oppression of breathing should return:—Sedative liquor of opium, six drops; Hoffman's anodyne liquor, and aromatic spirit of ammonia, of each, half-a-drachm; and camphor mixture, an ounce.

September 9th.—The urine became more copious; his pulse was 32 in the horizontal, and 36 in the sitting posture; the *bruit* was the same. He was ordered to take blue pill and squill in addition to his other medicines.

10th.—His pulse fell to 28, and he had some irritability of bladder.

24th.—He became greatly oppressed in his breathing, and his pulse fell to 24. A couple of glasses of wine relieved the breathing, and raised the pulse to 31.

October 11th.—He was seized with an unpleasant sensation in his head, and a tendency to syncope, which was warded off by wine.

25th.—Pulse 38. When at dinner on this day, he was seized with involuntary action of the muscles of his left fore-arm (in which part there is also slight numbness), so that he could not guide his fork to his mouth. The penis and scrotum are now œdematous; he complains of great oppression on the slightest exertion.

May 1st, 1851.—Became affected with pains in the extremities of some of the toes, in addition to his other symptoms.

11th.—It was agreed in consultation with Dr. Stokes and Mr. Adams to try two ounces of the following mixture, three times daily:—Infusion of quassia, a pint; and tincture of the acetate of iron, an ounce; mix.

27th.—Mr. W— became very unmanageable and uncontrollable to-day, and is affected with the most ridiculous delusions. He remained in this state until July 8th, when he became composed, and his maniacal symptoms ceased.

September 11th.—He has had no return of the mental disturbance; he gets up every day, and eats with a good appetite; pulse 32 to 40; no alteration in the cardiac murmur; the anasarca is but very trifling. He went on very well, his pulse ranging from 36 to 40, until May 15th, 1852, when he again manifested symptoms of declining intellect, not knowing his wife nor some of his most intimate friends. Between this date and the 29th, he took but little food, and his pulse averaged 31.

June 2nd.—He still labours under delusions, and he was disposed to be violent.

6th.—He did not know Mr. Adams to-day, and would not let him feel his pulse. The delusions continue; he takes but little nourishment, and is chiefly supported by wine; pulse 30 to 36; complained of pain in the region of the heart.

17th.—Intellect much impaired; is very weak; pulse 30; supported by wine.

25th.—He is very low; pulse ranges from 36 to 40, but it is weaker than at any time since his illness began; his hands are of a dark, mottled, livid colour, and cold; tongue dry and brown. His intellect brightened up a little, so that he recognised his wife, and took leave of an old friend; passes urine involuntarily.

28th.—Pulse 38.

29th.—Pulse 41, very weak; he seems very low to-day.

30.—Greatly prostrated; pulse has risen to 52, but is excessively weak. He lingered till 9 o'clock, a.m., 1st July.

My friend Dr. Mayne made the post-mortem examination thirty hours after death. On opening the thorax, the lungs were seen to be remarkably healthy. The heart was very large and flabby, and all its cavities were dilated, and full of blood. The walls of the left ventricle were about half-an-inch thick, and so softened that they were very friable, and easily torn. In the anterior wall of the right ventricle there was a deficiency of muscular fibres, and their place was occupied by fat in different parts, so as to give the interior of this wall a yellow, mottled appearance; and a couple of the carneæ columnæ in this situation seemed to be converted into this substance. The microscope detected fatty growth in great abundance here. Some of the fibres of the parietes of the left ventricle have a very granular appearance, with absence of the transverse striæ. Scarcely a trace of muscular fibre in some parts of the walls of the right auricle, large oil globules occupying their place. The parietes of the left auricle much occupied by fatty growth, and some of the fibres in a true state of fatty degeneration. Atheromatous

deposits in the coronary arteries, but they are not ossified; the same substance exists in the parietes of the arch of the aorta in a slight degree. The aortic valves healthy, with the exception of a small warty excrescence attached near the free edge and under surface of one of them; these valves do not permit regurgitation of water into the ventricle. Atheromatous deposits to a slight extent in the mitral valve. The lining membrane of the left auricle very much thickened and opaque. A light-coloured coagulum, probably of some days' standing, was entangled by means of slender processes amongst the musculi pectinati of the right auricle. Permission to examine the head was not obtained.

Case 2.—James Duff, æt. 73, a very short-necked, stout-made man, states that about twelve months since, whilst wheeling a hand-cart, he became faint, and fell down, but recovered in a few minutes. Three months afterwards, whilst at the same occupation, he had a second fit, and recovered as quickly as on the first occasion. In about another space of three months, while sitting before the fire, he felt dizzy, and would have fallen into it, but for the assistance of a person sitting near him; he recovered immediately. None of these attacks were followed by paralysis. During the last eight months he has been much annoyed by frequent calls to pass water. He never suffered from palpitation, or any uneasiness about the heart. Early this month (September, 1851) his feet and ankles began to swell.

September 15, 1851.—Present symptoms:—Visible pulsation of the temporal, carotid, brachial, and radial arteries; pulse 44, when he is in the horizontal, and 48 when in the sitting posture, but it has been so low as 32. Thorax is very prominent anteriorly; slight dulness in the cardiac region; the rest of the chest has the morbid resonance indicative of emphysematous lungs. Heart's sounds distinct, but there is a soft murmur with the first sound audible at the apex and over the aortic valves; impulse of heart not stronger than usual. Both jugular veins are very much distended, particularly when he is in the horizontal position. Urine coagulates with heat and nitric acid; specific gravity, 1014. Prostate gland very much enlarged, which causes great flattening of the stools. The arcus senilis is very well marked in both eyes, being semilunar, and situated in the upper part of each cornea. Dyspnœa is brought on by walking or by going up stairs, and he is frequently obliged to stop to recover himself. Bowels generally constipated; tongue furred. None of his family ever, to his knowledge, had heart disease, but one of his sisters died of phthisis. He was ordered diuretics; wine and gin punch, with good diet, and an occasional purgative.

October 1st.—The anasarca has increased very much during the last few days. Pulse 38 when lying down, and 40 when he is sitting up; it is irregular to-day. Urine scanty, of a dark colour; coagulates with heat and nitric acid. He was ordered to take two ounces of the following mixture, three times in the day:—Infusion of columba, a pint; tartarized iron, two drachms; mix: and to continue his wine and gin.

3rd.—Urine much increased in quantity; anasarca lessened; cardiac symptoms the same.

22nd.—Three days ago the anasarca began to increase; effusion was manifest in both pleuræ. He became greatly depressed and drowsy; yesterday he lapsed into coma, which continued until his death at nine o'clock last night.

The autopsy was made sixteen hours after death. There was a thick layer of fat under the integuments, particularly of the abdomen. The arteries at the base of the brain were brittle, and studded with bony deposits. The arachnoid membrane was slightly opaque in some places; three ounces of sub-

arachnoid effusion; pia mater very slighly congested: brain not so firm as usual, and about an ounce of serum in the lateral ventricles. Serous effusion in both pleuræ. The anterior surface of the pericardium was covered by a thick deposit of fat. On opening this sac it was found to contain a small quantity of serum. Heart hypertrophied, and its whole surface covered by a layer of fat, which only allowed the auricular appendices to be seen; this fat was thickest at the grooves for the coronary arteries; it extended for about an inch up the pulmonary artery. Coronary arteries ossified, the right the most so. The walls of the left ventricle, when cut into, were found to be at least three-quarters of an inch thick, and the muscular substance was paler than natural. Both this ventricle and its auricle were occupied by recently coagulated blood. The right side of the heart was large, and its cavities were dilated, the muscular fibres pale, and the ventricular walls very thin. The mitral valve was very much ossified, and evidently allowed regurgitation into the auricle. The aortic semilunar valves were studded with sharp bony spiculæ near their insertions, but they did not allow water to pass into the ventricle. There were ossific deposits in the aorta at the origins of the innominata, carotid, and subclavian arteries; these vessels were also extensively ossified, and the thoracic aorta was in some situations almost converted into a bony tube. The liver had the nutmeg appearance, and the kidneys were in an advanced stage of fatty degeneration.

Dr. Frazer kindly assisted me in examining the heart microscopically. We found fibres of the organ in a state of fatty degeneration in the following parts:—the septum of the ventricles corresponding to the fissure for the left coronary artery; portions of the right auricle and of the right ventricle near the apex. We also found fatty growth between the fibres in different situations.

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Dr. Todd alludes to some cases in which the general law,—that in the erect, or standing posture, the pulse is most frequent; that in the sitting posture it is less frequent; and that it numbers still less when the person is horizontal or recumbent,—was reversed, the pulse in them being more frequent in the horizontal than in the upright position. He has frequently observed this peculiarity in connexion with feebleness of the heart.

On referring to the preceding cases, it will be seen that this reversal of the law did not take place, for Mr. W.'s pulse was always increased in frequency on assuming the erect position, thus following the usual law; and in Duff the same also was observed until a few days before death, when I remarked that the pulse was uninfluenced by change of posture. There was another very interesting point about Mr. W.'s pulse, namely, its remarkable rise in frequency before death, an increase, however, that was accompanied by a great diminution in its strength.

Dr. Ormerod suggests that the slowness of the pulse which is so often noticed in fatty degeneration of the heart is characteristic of the second form of degeneration described by him in which the fat is deposited at the expense of the muscular tissue, in fact substituted for it, and not merely laid upon it, I can draw no conclusion on this point from my two cases, for in both fatty growth and fatty degeneration existed together.

ART. 54.—*Observations on the State of the Blood and the Blood-vessels in Inflammation.* By T. WHARTON JONES, F.R.S.

(*Lancet*, June 25, 1853.)

After alluding to the objections raised by some observers to the conclusions respecting the character of the inflammatory process in mammifera, from experiments upon cold-blooded animals, the author referred to his observations upon the pulsation of veins, as seen in the circulation of the wing of the bat, and published in the 'Philosophical Transactions.' He affirmed that there will be found similarity in the inflammatory process in the two classes of animals, and that with proper precautions we may accept the information afforded by microscopical examinations from both. He then described at some length the effects produced upon the circulation by the complete division of the bloodvessels. An artery, on being cut across, becomes constricted upwards in the direction of its trunk, and downwards in the direction of its ultimate ramifications; and so far as this constriction extends the flow of blood in the vessel is arrested. In a minute or two relaxation of the wall of the artery, and dilatation of its bore, are observed to take place, and then we find that in the upper part of the artery the flow of blood becomes re-established as far down as the first considerable branch proceeding from it above the place of section. Below the wound a retrograde current is kept up in the cut artery, through the medium of an anastomosing vessel, but this retrograde stream passes off in a direct channel by branches leading from the artery. The retrograde stream flows more or less sluggishly, and the blood is loaded with red corpuscles. The author has not found that veins become constricted after section like arteries. In the upper segment of a divided vein there is no further flow of blood up to the first considerable branch which joins the vessel above the wound. From the vein below the place of section, the blood which enters in a natural direction by one set of radicles flows out in a retrograde course by another set. Internal clots are formed by accumulation of blood within the cut ends of the artery. The effect on the circulation of the part to which the divided vessels lead, is, the blood in the last arterial ramifications, in the capillaries, and in the venous radicles, flows tardily, and becomes loaded with red corpuscles, which aggregate together. In some of the vessels there takes place actual stagnation of the aggregated corpuscles. This effect is explained by the circuitous route which the blood has to follow through anastomosing branches to arrive at the last arterial ramifications; the blood-corpuscles are allowed to aggregate in consequence of diminished *vis a tergo*. The author believes that inflammatory redness may depend upon two causes—a stagnation of the blood, as commonly described, and also upon an increased rapidity of the flow through dilated arteries. He mentions the effect of the division of the ischiatic nerve in promoting the disappearance of inflammatory redness in the web of the frog's foot, by causing a yielding of the coats of the arteries, and an increase in their calibre. He believes that this depends upon the section of the filaments of the sympathetic nerve.

Art. 55.—*On Primary and Secondary Fibrinous Deposits.* By Henry Lee, Assistant Surgeon to King's College Hospital.

(*Medical Times and Gazette*, June 25, 1853.)

Fibrinous effusions into internal organs have not been distinguished, on the one hand, from effusions of lymph, and, on the other, from tubercular deposits; and the author relates cases where the disease was noticed both in the veins and in the substance of the lungs. The separation of fibrin from the other portions of the blood answers many useful purposes in the processes of healthy reparation after injuries. When a blood-vessel is divided, one important element in restoration is the separation of the fibrin, which agglutinates the divided edges. Fibrin also furnishes a capsule to foreign bodies introduced into the circulating system. The author then proceeded to relate the particulars of a case of fatal hæmorrhage from the umbilicus, in consequence of the non-closure of the umbilical vein and one hypogastric artery. The dissection was minutely described, and he compared the want of power here displayed with the phenomena witnessed in certain cases of erysipelas and diffuse cellular inflammation. When once the morbid deposition has been communicated to the blood, it matters not in what part of the vascular system the deposit occurs, the essential characters and subsequent changes which it undergoes will be found strictly analogous. The author proceeded to illustrate the effects produced upon the blood by the admixture of different diseased secretions, by relating the particulars of some experiments upon the recently-drawn blood of the horse. He divides deposits of fibrin into primary and secondary, and draws these general conclusions:—1. That the blood may, under certain circumstances, deposit from itself a fibro-albuminous element, either in some of the larger vessels of the body, or in the structure of internal organs. 2. That the process is not of an inflammatory character, and may occur either with or without the intervention of a membrane. 3. That the changes in the blood which immediately precede such an action may be caused by the admixture of vitiated secretions. 4. That the deposit, when formed, is capable of undergoing various changes, which issue in the formation of purulent-looking fluid, and is capable, during these changes, of communicating irritation to surrounding fluids.

Art. 56.—*A Case of Secondary Arterial Disease caused by the Impaction in the Vessel of a detached Fragment of a Diseased Cardiac Valve.* By Joliffe Tufnell, M.R.I.A., Surgeon to the City of Dublin Hospital.

(*Dublin Quarterly Journal*, May, 1853.)

This case is particularly interesting in connection with the cases of the kind to which attention has been recently drawn by Drs. Senhouse Kirkes, and Rühle; but it abounds also in peculiar and intrinsic features of interest.

The patient was a youth of seventeen years of age, whose consti-

tution, originally delicate, had been broken by syphilis and mercury. In November, 1852, he had acute rheumatic symptoms in the joints, and in the month following, these extended to the heart. When Mr. Tufnell saw him, which was on the 7th of January, he presented signs of cardiac dilatation and hypertrophy, and patency of the aortic valves. He was excessively anæmic. Rest, pure air, nutritious diet, and chalybeates, were enjoined; and under this treatment he improved, until the evening of the 10th, when—the report proceeds—

On being visited, he said he was afraid his right leg had become paralysed, it felt so *heavy*, *dead*, and *cold*, and so full about the knee. Upon examining the extremity, its temperature first attracted notice. It was very low, much below the other. Its colour was dirty, livid yellow, and the foot and leg were slightly œdematous. The knee was swollen, measuring one inch more in circumference over the patella than the opposite one, the difference caused not by general œdema, or effusion in the joint, but by the presence of large pulsating tumour in the ham.

On inspection and examination of this tumour, it was found to occupy the lower two-thirds of the popliteal space, sinking down between the heads of the gastrocnemius muscle. It was oval, of the dimensions of a hen's egg, with a lateral diastolic motion of two inches, forcing the forefinger and thumb asunder when applied laterally to it at this degree of separation. Pressure on the trunk of the artery above completely controlled pulsation, *but did not effect any diminution* in the size of the swelling. There was no pulsation to be felt in the posterior tibial artery at the ankle. Upon applying the ear to the tumour, both unaided and with the stethoscope, no *bruit de soufflet* could be heard, but a very loud single thump. A flannel bandage was now carefully applied from the toes to the middle of the thigh, and the same general measures as before continued.

On the 11th and 12th he progressed favorably. By the 13th he had so much improved under the chalybeate treatment, that he could lie flat upon his back in bed. His voice was stronger; he has lost the distressing beating in the head; and when visited in the evening, said he felt quite comfortable. At 10 p.m. he retired for the night, and had been about an hour in bed, when he suddenly felt a twisting pain, of a very acute character, in the ham, being, as he described it, as if a corkscrew had been quickly turned into the joint, and then withdrawn with a jerk. This was followed by cramp in the leg, which grew worse and worse, assuming a burning character, and at last becoming so severe as to make him cry out with pain. Having been sent for, I found him in the condition just described, calling for relief, and yet unwilling to allow the leg to be approached. After a little persuasion, however, he permitted a lawn handkerchief, sopped in laudanum, to be applied over the tumour, and gutta percha sheeting to be slightly bandaged outside. A full opiate was administered internally; and under the joint influence of the two he became tranquil, and in an hour dozed off to sleep.

The succeeding day no examination of the tumour itself could be gained, but, on exposing the front of the knee-joint for the purpose of loosening the bandage, a large artery was plainly *visible*, beating on the inside of the knee, and running over the condyle of the femur, showing that collateral circulation had become established.

There was also much increased action of the heart; it was forcibly pulsating on a level with the left nipple, and for two inches to the right of it. The dulness upon percussion extended over a space of nearly three inches to the right of the left nipple, and for the same extent above and below. The pulsation

in the carotid arteries was also very visible, especially on the right side. The most careful examination failed to detect any pericardial roughness, and there was no sign of mitral valvular disease, beyond a slight fremitus or purring murmur, whilst the signs referable to the diseased state of the semilunar valves of the aorta were more manifest than before.

On the 18th the citrate of iron was increased to three grains thrice a day, the same general treatment being continued.

On the 22d, nine days after the attack of pain in the popliteal space, all tenderness there had subsided, and a careful examination of the ham was now allowed. The condition of the part was peculiar: all the symptoms of the previously existing tumour had disappeared, and the girth of the limb was the same as that at the opposite side. No difference could now be perceived in the two popliteal spaces when the forefinger of each hand was drawn along the course of the arteries, at the same time, on either side. The collateral vessel, already mentioned as pulsating on the inner side of the knee, was still there, beating forcibly, and feeling to the touch as large as the radial artery at the wrist. The posterior tibial could now again be felt beating behind the inner ankle at its normal site, but very feebly, as compared with that of the opposite extremity.

On the 25th of January there were symptoms indicative of failing strength. The appetite had declined, and the digestion become impaired, gaseous distension of the intestines causing much pain of pleurodynic character in the left hypochondriac region. The face and jaws, too, exhibited signs of puffiness from œdematous effusion, and the urine was scanty.

Under these circumstance the citrate of iron was omitted, and an infusion of broom, with nitric ether and acetate of potash, substituted, and dry cupping, with opiate fomentations, were applied to the painful region of the side. The urine at this time, and throughout the whole period of illness, exhibited no trace of albumen, either upon the addition of nitric acid or the application of heat.

On the 3d of February, the pallor of the countenance having increased with accompanying debility, tartrate of iron was added in five-grain doses to the diuretic mixture.

On the 16th, at midnight, he was awakened out of sleep by paroxysm of pain of anginal character, the breathing being very rapid and distressing, each attempt to inspire being met by short spasmodic cough. This continued for some time, and eventually subsided under repeated doses of Hoffmann's anodyne liquor in Murray's solution of camphor.

From the 16th to the 20th he gradually sank, the sensorium being clouded by day, and delirium supervening at night; wine and stimulants were fruitlessly given, and he died quietly and without pain on the morning of the 20th, the pulse, just prior to dissolution, being as steady, full, and regular, at 90, as in health: the jerk previously existing from regurgitation having subsided as the heart's power of contracting declined; and the wrist, if presented out of bed to a bystander unconscious of the real nature of the case, might have been regarded as the pulse of an individual in robust health.

The body was examined thirty hours after death. Upon raising the sternum, the pericardium floated upwards on a level with the most projecting portion of the heart, being elevated by serum effused into it to this extent, or about, in measured quantity, six ounces. The pericardium covering the heart, as well as the reflected portion of this membrane, showed no trace whatever of inflammatory action. The heart itself was about twice the natural dimensions, and obtusely rounded at its apex; the right auricle and left ventricle were considerably distended with blood. On examining the cavities consecu-

tively, in the course of the circulation, the right auricle was found dilated and thinned, but not otherwise diseased; the right ventricle less considerably enlarged, though somewhat so; the tricuspid valves quite sound: no trace of endocarditis having apparently ever existed in either of these cavities; the pulmonary artery and its valves were also natural. Proceeding thence to the lungs, both were congested from impeded circulation, and the air-tubes to their minute divisions exhibited conditions peculiar to congestive bronchitis. Returning to the left side of the heart, the pulmonary veins were natural; the left auricle dilated, and its structure thickened; the left ventricle greatly enlarged, and its walls hypertrophied; the mitral valve sound, with the exception of its anterior segment, where were deposited a very few specks of fibrous vegetation. At the aortic valves, as diagnosed, lay the sole seat of disease. Each semilunar division was enlarged to about twice its natural dimensions in diameter, rolled upon itself and everted, projecting upwards towards the arch of the aorta, encrusted upon every direction with masses of fibrine, gray and nodulated; some in tubercles, others in pendant bunches, forming warty growths with narrow pedicles, or cauliflower-like vegetations, to an extreme degree. Immediately above the semilunar valves, in the sinus of the aorta, existed a large sloughy ulcer, which had destroyed the lining and middle coats of the artery. Beyond this, the aorta was slightly dilated, and bore traces of atheromatous deposit to some extent.

The popliteal artery was then carefully dissected out from its exit from the tendinous canal of the adductor muscles to below its tibial divisions. Examined by the eye, it presented a natural appearance as far as the giving off of the articular vessels; below this it spread out into an oval, flattened body, somewhat resembling the cauda equina of the spinal cord. It then became slightly narrowed before dividing into the tibial arteries, which were both pervious, but their venæ comitantes were obliterated, filled with clots of consolidated blood, of dark modena hue, lodged in separated oval nodules. To the touch, the artery itself above appeared perfectly healthy, though whitish throughout the portion described, but it felt densely solid and firm.

Upon slitting it up, and exposing its cavity throughout, no disease whatever could be found in the upper portion, but towards its lower end it had been converted into a fibrous cord of greyish-yellow colour, as solid as the walls of a long-standing gristly stricture of the urinary canal. In the intervening space was lodged a clot of fibrine, intimately connected to and with the artery below, less closely adherent in the middle, and only applied against its lining membrane above, whence it stretched upwards in a pediculated form to the nearest collateral branch. Its colour, too, greatly differed throughout this course, being gray at the inferior portion, yellow in the central, and blood-coloured at the top, its density decreasing in proportion as the fibrine verged from organic to mere clot.

Such were the local appearances in this case. In them, it will be allowed, is demonstrated the value of post-mortem examinations. We see symptoms, anomalous and obscure during life, made intelligible, patent, and clear; all doubt and mystery removed; and the details of a case rendered apparent which might otherwise have (from their unusual character) become the subject of much speculation, if not of discussion and dispute.

We see symptoms so strongly simulating aneurism, that it is difficult to decide in the negative as to its existence. We have pre-existing arterial disease in a frame which had been subjected to the effects of syphilis and mercury; a pulsating tumour in the most frequent seat

of the disease, whose diastole is arrested by pressure on the cardiac side; numbness and slight pain in the limb from distension of the passing nerves; œdema of the foot, and passive congestion from pressure on the veins and lymphatics; diminished temperature from interrupted arterial circulation, and loss of pulsation in the branches of the vessel below, yet differing from aneurism in two very important points, viz., being totally devoid of *bruit de soufflet*, upon the most careful examination by the ear; and though fluid, and of recent formation, yet not decreasing in size when the flow of blood was arrested by pressure from above.

These two points led to the diagnosis that there was no true aneurismal sac communicating with the arterial tube, but that the whole vessel was dilated,—a circumstance for the occurrence of which weeks, or even months, would, under ordinary circumstances, be required, yet here developed in a few hours. Soon, however, a fresh train of symptoms, resembling aneurism, set in: as in the majority of cases cured by compression, sudden pain was experienced in the tumour, of almost excruciating character, lasting for the customary period, then subsiding, and being followed by well-developed collateral circulation. But now, again, there is a divergence from the simile. No tumour of densely hard character, resulting from the consolidated blood, is to be found in the popliteal space at the seat of disease; but instead, the feeling communicated to the fingers as if the artery were again pervious throughout, confirmatory evidence existing in the restoration of circulation in the posterior tibial artery at the ankle. All these conflicting circumstances have been cleared up by post-mortem examination.

We find the artery pervious through some extent of the popliteal space, yet at its inferior extremity firmly and entirely closed, its canal plugged by fibrine superiorly, the walls of the artery cohering below, or like a gristly stricture consolidated by fibrous deposit.

We find no traces of a sac or aneurismal pouch; no atheromatous disease of the vessel in its course, the artery healthy at this spot, as well as both above and below. We have the artery obstructed, and rendered impervious to the blood-passage through it, and secondary consequences resulting. We trace them to the centre of the circulation—the heart, and there discover appearances that will readily resolve the phenomena in question,—loosely attached fibrinous vegetations from the sigmoid valves, hanging by pedicles into the aorta, and so delicately adherent, that a touch almost is sufficient to detach them from their site.

Here is a ready explanation of the whole; and yet, before accepting it as certain, we must take another view of the case, and determine that the symptoms did not depend upon acute local arteritis,—such a condition as has been observed by Dr. Stokes in the following case:*

A young person, with permanently patent aortic opening, had, whilst labouring under the consequences of this affection, sudden pain in the calf of

* This case is unpublished, and for permission to refer to it here Mr. Tufnell is indebted to Dr. Stokes.

the leg, accompanied by pulsation in the tibial vessels to a most violent degree; next, a severe attack of pain in the biceps muscle, with immense local arterial excitement, succeeded by loss of pulsation at the wrist. Then, leaving this spot, irritation elsewhere, local arterial throbbing setting in consecutively in different portions of the circulatory system in turn; these attacks, however, accompanied by rigors, fever, and sweating, that ran the patient down and accelerated his end. Here no dissection was allowed.

That the obliteration of the popliteal artery in the case described did not result from local arteritis, but was caused by mechanical plugging of the vessel by a foreign body, I have not a doubt; and for this reason, viz., that had it been caused by arteritis, there would have existed symptoms of an inflammatory character in the general system, and the disease would not have been confined and limited to a single spot.

It may be urged, however, that, in the examples of plugging of the arteries by fibrinous deposits detached from the interior of the heart, which have been adduced by Dr. Kirkes in his paper, already referred to, the masses of vegetation were themselves discovered, not adherent to the coats of the arteries in which they were lodged, but merely lying loosely in the caliber of the vessel. In the case under notice, on the contrary, we have no traces of this vegetation existing. We find, at the spot of its arrest, the artery perfectly obliterated, converted into a fibrous cord. This condition, then, I believe to have been brought about in the following way:—The vegetation became impacted in the vessel so firmly as totally to exclude circulation. The artery then, behind the seat of obstruction, became distended by dilatation of all its coats; inflammatory action was set up at the point of arrest; lymph was in consequence effused, adhesion ensued, and obliteration of the vessel at this spot followed as the final result. Whilst this occurred, the artery above, retaining its elasticity to a considerable degree, contracted upon the blood contained in the dilated portion, expelled the greater portion of it through the collateral vessels, and emptied itself, so far as to prevent consolidation of a sufficient amount of blood to afford to the touch the sensation of solid tumour, which is felt after rapid cure of aneurism here. A small quantity necessarily remained in the caliber of the artery, which. retained here, coagulated, and formed the clot found within this space.

With such complete stoppage of circulation through the limb as occurred in this case, it is, at first sight, a matter of wonder that mortification of the extremity did not ensue, such as followed in the case quoted by Legroux. Why it did not, I think may be readily explained by reference to the report. The vessels had been so long subjected to forcible distention, from a greatly enlarged and powerfully contracting heart, that they adapted themselves with more than ordinary readiness to the circumstances of the case, and speedily dilated, so as to form a collateral circulation sufficient to give free passage to the blood, and thus prevent gangrene of the leg and foot. A more difficult point of solution is the reason why the artery, upon blocking of its canal, should in this instance have dilated into a tumour, and such a condition not equally obtain when a ligature is

ordinarily applied. The explanation, I think, however, may be satisfactorily afforded by referring to the peculiar condition of the individual himself in this case. With cardiac enlargement and disease of the aortic valves, anæmia, and broken health, to the degree which existed here, no surgeon could think of resorting to the operation by ligature, if an aneurism did exist. We have not, nor, I think, are we likely to have, analogous cases subjected to the ligature, and consequently are deprived of the only sources of practical deduction; but, in their absence, we may, I think, fairly draw an inference from negative conclusions.

ART. 57.—*On Malformation of the Aortic Valves as a Cause of Disease.* By THOMAS B. PEACOCK, M.D., Assistant-Physician to St. Thomas's Hospital.

(*Edinburgh Monthly Journal*, May, 1853.)

After describing several kinds of malformation, and detailing some cases in which this cause operated, Dr. Peacock concludes with this remark.

"The importance of this cause will, however, be seen, when it is stated that of thirty cases of aortic valvular diseases, of which I possess full notes, not less than five may be regarded as having so originated; and during the last and present sessions of the Pathological Society, specimens of disease arising from malformation, have been exhibited by Dr. Bennett, Mr. E. Pye Smith, and Obré. I believe, indeed, that a careful investigation would prove this cause to operate more frequently than is generally supposed; and that where symptoms of valvular disease present themselves in persons at early periods of life, who have not suffered from severe rheumatic attacks, or experienced any strain or injury, they will generally be found to depend on malformation of the valves."

ART. 58.—*On the Causes of Dilatation of the Heart.* By W. T. GAIRDNER, M.D., Physician to the Royal Infirmary, Edinburgh.

(*Medico-Chir. Rev.*, July, 1853.)

At the close of an elaborate and valuable paper on this subject, Dr. Gairdner proceeds to make the following remarks:—

I am now, he says, in a position to state the theory which has all along guided me in these researches, but in support of which, it will be observed, I have appealed to evidence collected without the slightest reference to any such theory, or indeed any theory on the subject. Until the last few months, it had never occurred to me to doubt or modify the prevailing opinion, and I trust that the reader will accord me the credit of not having allowed preconceptions to prevail with me in the statement of the above facts.

Led by fact and observation, as well as by theory, I am now well assured that it is chiefly, if not exclusively, those diseases of the lung that lead to diminution of its volume, which have any appreciable influence in dilating the heart. Nothing can be more certain than that in emphysema and the collateral affections, dilatation of the heart is a secondary result of extreme frequency. It would probably not be too much to state, that nine-tenths of the cases of cardiac hypertrophy not referrible to valvular disease, are found to be connected either with emphysema of the lungs or with some of the atrophic affections which I have elsewhere shown to be its congeners. Now in these cases I have endeavoured to show that emphysema is not the primary, but in all cases the secondary lesion; and that it depends upon the dilatation of the chest in inspiration, acting upon lungs some portions of which are diminished in bulk by disease. Not to retrace these arguments, I shall content myself with stating, as a corollary of the doctrine I have maintained with regard to emphysema, that the same organic causes which tend to the abnormal dilatation of the air-vesicles of the lungs, tend also to the abnormal dilatation of the cavities of the heart: that this affection, therefore, accompanies diseases of the lungs, not so much in virtue of the existence of obstruction of the capillary system, *as in consequence of partial atrophy or collapse of the air-cells;* the special forms of disease with which cardiac hypertrophy is connected being bronchitis, bronchial obstruction, some forms of chronic pneumonia, retrograde and healing tubercles, and chronic pleurisy or empyema, *when accompanied by contraction of the chest.* If this view be correct, it will follow that emphysema (*per se*) is in no material degree *the cause* of cardiac dilatation; but rather that cardiac dilatation and emphysema have one common cause—viz., partial atrophy of the lung; and that emphysema owes its acknowledged frequent coincidence with dilatation of the heart to their arising in many cases out of the same conditions. Further, if the justice of my views in general be admitted, it will follow, that a certain amount of atrophic disease of the lung being given, it will react with even greater power upon the heart, when, from the extended character or peculiar disposition of the lesion, the lung is enabled to resist the dilating power of the chest; and, therefore, that we look for a certain number of cases where emphysema is insignificant in amount, and where collapse or atrophy of the lung and the concomitant dilatation of the heart exist in the most extreme form. Such cases, I believe, are not unfrequent, but they have hitherto been generally misinterpreted, the disease of the lung being supposed to be the result, and not the cause, of disease of the heart. The occurrence of dropsy of the pleura and of hæmorrhage of the lung in many cases of heart-disease, has a peculiar tendency to mask the original affection; and I believe that I have myself observed many cases of cardiac disease so accompanied, and have erroneously supposed the entire pulmonary disease to be a complication, when I might, with at least equal probability, have looked to it as the real source of the more prominent cardiac affection. I am therefore led to hope, that by more careful observation in future, the law I have now attempted to elucidate may be more extensively confirmed, and may even be brought to explain a

large class of cardiac diseases which are at present inexplicable, or have fallen to be accounted for by extremely vague pathological theories.

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It is rendered by this inquiry extremely probable, that dilatation and hypertrophy of the heart are never otherwise than secondary affections, and that they are dependent, in the very great majority of cases, 1st, on valvular deformity and other obstacles to the circulation in the heart or great vessels (dilatation *from within*); 2d, on the expansion of the thorax under abnormal conditions (dilatation *from without*). The consequence of either of these forms of dilatation, or even of the tendency to either of them, may be hypertrophy of the muscular substance, due to the effort of the organ to act effectively under an increased resistance to its contraction. In the case of dilatation *from within*, an increased power is required to overcome an obstruction in the circulating system itself; in the case of dilatation *from without*, hypertrophy takes place, because the expansion of the thorax in inspiration tends constantly to overload the heart, and this tendency can only be resisted by increased muscular force. The increase of dilatation without corresponding hypertrophy (the *aneurisme passif* of Corvisart) is always the signal of disaster; because it indicates that the balance of the circulating forces is finally destroyed.

Art. 59.—*On Pericarditis.*

By F. Sibson, M.D., F.R.S., Physician to St. Mary's Hospital.

(*Medical Times and Gazette*, Oct. 28, 1853.)

In a recent communication to the Medical Society of London, Dr. Sibson remarked, first, that a well-marked friction sound, whether rustling, rubbing, or creaking, once heard can be recognised again with precision and certainty; but, in the early stages and in some peculiar cases, the best observers cannot say whether the noise is exocardial or endocardial. Of the 40 cases observed and recorded by Dr. Taylor with care and good faith, in 8 only was distinct friction sound recognised at the beginning of the attack; in 17, it was doubtful whether a bellows or a friction sound was heard, although subsequently the *frottement* in most was unequivocal; in 4, a bellows-sound was replaced by a *frottement*. One case was not analysed. Dr. Stokes has observed that, after the application of leeches, the friction has given place to a bellows-sound. Dr. Mayne, Dr. Law, Dr. Graves, Dr. Williams, Dr. Hope, and Dr. Walshe, all agree, that, while the exocardial murmur is in its very character usually distinct from the endocardial, yet that in some cases, and especially in the early stages, either of the sounds may be mistaken the one for the other. Dr. Watson and Dr. Latham, claim the power to discriminate between the two classes of murmurs, yet even they admit, that in some cases the two sounds are alike. Skoda, as rendered by Dr. Markham, says, "that there is no kind of endocardial murmur, with the exception of the whistling, which may not be imitated by a friction sound of the pericardium; and no pericardial murmur which may not resemble an endocardial murmur."

Here Skoda may go too far; but it is evident that other tests are required, besides the difference of the two murmurs, to distinguish between pericarditis and endocarditis in the early stages when the discrimination of the disease is so important. The principal test proposed by Dr. Sibson is the *employment of pressure*. If a friction-sound exists, that sound invariably becomes louder and harsher by making moderate pressure with the end of the stethoscope, so as to bring the surfaces closer together. In the earliest stage, pressure will often excite a friction-sound when none was previously present. In the last case of pericarditis under Dr. Sibson's care in St. Mary's, pressure brought out a sound like a bellows-murmur. A few leeches were applied. Next day there was a loud to-and-fro *frottement*. In the advanced stages, when the effusion of fluid by separating the two surfaces, extinguishes the sound, pressure, by bringing the surfaces again in coutact, will restore the lost friction-sound. The *rationale* of the effect of pressure in exciting and augmenting *frottement* is self-evident. A beautiful illustration of it presented itself in a patient of Dr. Sibson's, in St. Mary's, the other day. A female, affected with phthisis, had ascites. On displacing the fluid, and pressing on the liver, a to-and-fro thrill was felt under the finger. As was anticipated, a loud, harsh, double creaking noise, during inspiration and expiration, was heard on making pressure with the end of the stethoscope; on withdrawing the pressure, the sound ceased. After death, the surface of the liver was found to be roughened. The first patient in whom Dr. Sibson observed the effect of pressure in reinducing *frottement* was a female, in the Nottingham Hospital, affected with pericarditis, on November 25th, 1838. Since that period, he has recognised this important sign in every case of pericarditis he has examined. He gave an account of it in his paper 'On the Position of the Internal Organs,' in the 'Provincial Medical Transactions' for 1844. The effect of pressure is rarely excitable in men after the age of 45, the cartilages being then too firm and unyielding. The only point to guard against is the possibility of exciting anæmic murmur in very young persons. The anatomical position of the *frottement* ought to be noted. Dr. Stokes found that friction-sound is audible generally only over the region of the heart; while endocardial murmurs are transmitted beyond that region. This rule holds good in the early stages, and while effusion is present; but when the fluid disappears, and the surfaces come into close contact, the noise may be heard extensively over the front of the chest. The *frottement* differs, in many cases, over different parts of the heart. To the right of the lower sternum over the right auricle, the friction sound is usually double and soft, and equally loud during systole and diastole. To the left of the sternum over the right ventricle, it is also double, but harsher, especially during systole. Over the apex it is generally only systolic. The point of the region of pericardial dulness is important, being conical; the point upwards reaching to the top of the sternum, as Corvisart pointed out. When the effusion is great, the heart is often raised, so that the impulse is felt and the *frottement* heard in the second and third spaces, instead of the fifth. This Dr. Sibson pointed out in the paper referred to. Dr. Latham observes, that, at this stage, not only is the impulse raised, but the

tremor or thrill felt by the hand is raised also. Dr. Walshe, in his valuable work, has noticed the tilting upwards of the impulse of the apex from the fifth to the fourth intercostal space, when there is much pericardial effusion. Adhesions usually begin to form over the outer edge of the right and left ventricles. If so, the *frottement* ceases there, while it remains over the base; the region of *frottement* with the advancing adhesions gradually narrows to the middle of the sternum, and, at length, when adhesions are complete, the friction sound suddenly becomes inaudible. If adhesions do not take place, the friction sound may remain long after the pericarditis has ceased. If a patient is seen at this stage for the first time, care must be taken not to treat him as if he were subject to the disease in the acute stage. In pericarditis, especially if it affect the central tendon of the diaphragm, the respiratory movement of the upper ribs is excessive, especially the right side, while that of the abdomen is restrained. With regard to treatment, there can be little doubt that the severe antiphlogistic plan pursued by Bouillaud, and to a lesser degree by Dr. Taylor and others, increases rather than diminishes the mortality, besides inducing a prolonged and tedious convalescence in those who recover. A few leeches to the region of pain, opium in repeated doses on Dr. Graves's plan, with, in severe cases especially, small doses of calomel, in addition to the treatment previously pursued for the acute rheumatism, will usually prove adequate to meet the disease. Indeed, Dr. Risdon Benett's paper proved, that, in many cases, the treatment need not be altered when pericarditis sets in in acute rheumatism. This rule may, however, be carried too far. The great object is to restrain the disease, without doing damage to the constitution, so that the convalescence may be as rapid and complete as possible. Indeed, each case must be treated on its own merits. After the acute stage, food, stimulants, and tonics properly apportioned are often well borne, and materially shorten the convalescence. It is not by one sign only, however distinctive, that pericarditis is to be ascertained, but by the combination of the various diagnostic signs, not neglecting either the character, nearness, or rhythm of the friction sounds; their limitation to the region of the heart or extension beyond it; their reinforcement or actual production by pressure; the form, shape, and extent of the pericardial dulness; the presence of thrill, the seat of the impulse, the prominence of the cardiac region, and the altered movements of respiration, as well as the pain on pressure over the heart and epigastrium, the dyspnœa, and the various general symptoms, the sum of which go to inform us, more even than the physical signs, of the severity of the case, and to suggest to us the requisite treatment.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 60.—*A Case of Perforating Ulcer of the Œsophagus, which caused Death by Penetrating the Aorta.* By W. H. FLOWER, Esq., Curator to the Middlesex Hospital Museum.

(*Lancet*, June 25, 1853.)

This was the case of a painter, æt. 51, who had an hour previously

suffered from profuse hæmorrhage from the mouth, the blood being bright and frothy: syncope supervened, in which state he was brought to the hospital. He was tall, well-made, and muscular, but the countenance was death-like; pulse imperceptible, and there was absence of consciousness. About a week previously he had complained of a deep-seated pain at the top of the sternum, shooting to the spine. Admitted under Dr. Hawkins, he was placed in bed, ice put into the mouth, and large doses of acetate of lead were administered. Slight reaction ensued. The next morning, at half-past nine, the pulse was 100, firm, steady, though small. On auscultation, free inspiration was heard in every part of the chest, except the upper lobe of the left lung, were the respiratory murmur was deficient; there was increased vocal resonance, and some dulness on percussion in this region. At ten a.m. a fresh attack of hæmorrhage supervened, which proved fatal. On examining the body, fifty-three hours after death, a few old adhesions were found at the apices of both lungs, with a few crude tubercles in the upper lobe of the left; the remaining portion of the lungs was much blanched. The heart was loaded with fat, but otherwise healthy; no coagula in any of the cavities. The stomach contained a clot of blood, which formed a complete cast of the organ; round the cardiac orifice were four irregular patches of erosion, or fissures in the mucous membrane, involving partly the stomach and partly the œsophagus. About three inches above the cardiac orifice, on the left side, was a perfectly circular opening, three inches and a half in diameter. with slightly elevated edges, which were sharp and clean as if cut with a punch. It bore a strong resemblance, on a small scale, to the perforating ulcer so frequently met with in the stomach. On the inner surface of the aorta, at the termination of the descending portion of the arch, nearly corresponding with the ulcer in the œsophagus, but on a somewhat higher level, was an irregular opening, with ragged edges, formed by the projecting and torn lining membrane. At this spot the coats of the artery were much thinner than elsewhere. About half an inch above was a patch of atheromatous deposit, the centre of which had advanced to calcification. The opening in the aorta and in the œsophagus communicated freely. The duodenum contained a loose coagulum, and the ilium and large intestine contained much semi-fluid blood. The jejunum was, however, empty. The other organs were apparently healthy. The author then proceeded to make some remarks, observing that cases of communication between the aorta and œsophagus, the result of aneurism, were not rare, nor were those arising from ulceration of the œsophagus, from tuberculous or malignant disease; but he believed that cases corresponding to the one just detailed had been rarely described. Reference was made to the descriptions by Cruvelhier and Rokitansky of perforating gastric ulcers, with the object to show that these authors had not met with cases similar to the present one; and a quotation was read from Albers, who had described the spreading of ulcers of the œsophagus into the aorta. A case mentioned by Van Doeveran was also quoted, in which a large ulcer of the œsophagus had destroyed the wall of the aorta, and the stomach was found quite distended with blood. In conclusion, the author thought the present

case one of great pathological interest, exhibiting an example of an ulcer of the œsophagus very rarely met with, and remarkable for having advanced rapidly, without spreading in width, through a considerable space of loose cellular tissue, and finally terminating its course by perforating a tissue so little liable to ulceration as the coats of a large artery.

ART. 61.—*Case of Sarcina Ventriculi of many years' duration.* By R. NEALE, M.D.

(*Medical Times and Gazette*, June 18.)

This case is that of a man, æt. 61, and its general features are very similar to those of the case described by Dr. Hassall, in our last volume. It began so long as eleven years ago.

"In it," says Dr. Neale, "the remarkable influence of the hyposulphite over this singular disease is well seen, the patient having been purposely treated with other remedies previous to commencing the hyposulphite. During the 3—4 weeks, or 27 days, he was taking the sulphur or carbonate of ammonia, from which he derived benefit, he calculated that he vomited 27 pints; while, during 10—11 weeks, or 74 days, since taking the hyposulphite, he calculated that he only vomited little more than 13—14 pints, 12½ of which were ejected within the first 9 days. He has taken about 4 oz. of the drug at present."

ART. 62.—*Extract from a Clinical Lecture on Fæcal Obstruction.* By R. CHRISTISON, M.D., Professor of Materia Medica and Clinical Medicine, Edinburgh.

(*Edinburgh Monthly Journal*, Sept. 1853.)

There are some whose prejudices are unconquerable, and who will not take laxatives at all, though their bowels do not move of themselves above once a week, if even so often. And it is right you should be aware that this apparently most unnatural and preposterous habit is not of necessity, and in all cases, a habit injurious to health. You will occasionally meet with men so singularly constituted, that they enjoy sound health upon a weekly stool. And, indeed, all perhaps that can be well said of them is, that they are rather to be envied by their fellow-creatures, for an endowment which must be frequently found very convenient. But such people sometimes get into difficulties. About two years ago, a gentleman from Wigtonshire, a landed proprietor, attached to agricultural pursuits, and therefore never without free air and exercise, consulted me about a serious difference he had with his medical advisers in the country. Having recently recovered under their care from a severe pneumonia, they made the not unreasonable stipulation, when they ceased to attend him, that he should take a laxative every three days, to correct a constipated habit. To this he demurred, on the very natural ground, that, until his late illness, he had enjoyed excellent health for sixty years, although his bowels had been habitually moved all his life only once a fortnight.

This gentleman had made a journey of 120 miles for no other reason than to get the question between him and his physicians settled by some competent authority in therapeutics; and, in referring to me for the purpose, he mentioned, for my further guidance, that a neighbouring gentleman of his acquaintance, of the age of seventy, had told that he too had immemorially evacuated his bowels only every alternate Sunday, without being able to recollect having ever had an illness. It was scarcely to be wondered at that their common experience half inclined them to think that their constitution was the natural and patriarchal one.

Our hospital patient seems to have been of the same opinion with these elderly agriculturists. Like them, he has had some experience of life, being now 74. Like them, too, he has enjoyed singularly good health, being a surprising fresh-looking man for his years, notwithstanding that he had passed through severe trials in early life. As a soldier in India, he sustained, when very young, a spear-wound of the leg, where he has had, almost ever since, a small open ulcer, which he ascribes to the spear having been poisoned. In the Spanish war he was wounded at the battle of Barossa, in 1811. There are now evident marks of the bullet having passed through him from the left groin, piercing the blade of the *os ilium* in its course. For two years he lay in hospital, and recovering with a shortened limb and stiff joint, he was invalided on a pension of 1*s*. 6½*d*. as a wounded sergeant and soldier of twenty-one years' service. This he has now enjoyed for forty-one years. Nor has his wound much incapacitated him; because for many years, and down to his present illness, he had actually worked as a railway labourer. During this long period he lived on his pension and wages in great comfort and sound health, until, on lately leaving off work, he became liable to constipation. At first his bowels were moved every other day in general, and afterwards seldom oftener than once a week, unless he took physic, which he did seldom. At last the action of the bowels seemed to cease altogether, and he went for four weeks without any evacuation, even though he made occasional trial of a laxative. At the end of the fourth week, a strong dose brought away a great accumulation. After that he had no farther evacuation, and it is now three weeks ago. He had again made a few gentle attempts to assist Nature, but he did not much insist upon this, because his lodging-house had no convenience, as he said, for a man under physic. During the entire period of seven weeks, he assures us he had no pain or other suffering whatever. But at last his belly got very large, so that his trousers would not button over it; and on this account he applied here for relief, and not for any actual illness.

On admission he had no appearance of any suffering. He seemed a fresh, vigorous, active, cheerful man. He took his food tolerably well; the pulse was natural; and the tongue was only a little furred. "The abdomen," to quote the hospital journal, "is much distended, especially in the iliac regions, where there are two large prominent swellings projecting laterally, so that the crest of the ilium on each side is quite sunk, the tumours projecting much beyond the bones. There are different irregular swellings at different parts of the abdomen, especially in the track of the colon. Over some of these points

percussion is quite dull; over others it is tympanitic. The circumference of the abdomen where largest, is 39½ inches."

As it was judged unsafe to give him active purgatives by the mouth at once, in case of the great gut being firmly obstructed with hardened fæces, a turpentine injection was properly administered by the clinical clerk in charge of him. The result was "a prodigious discharge of fæcal matter of all degrees of consistence," much of it composed of very hard scybala. A dose of jalap and calomel given immediately after this forerunner, brought away also a great mass of fæculent matter. Next day, being quite well, but with the abdomen as large as ever, another similar dose occasioned only an ordinary discharge. On the third day, the swelling being equally great, though now quite uniform, and everywhere clear on percussion, I gave him what has always appeared to me the most effectual of all safe energetic purgatives in cases of simple fæcal accumulation—two drachms of oil of turpentine with six drachms of castor oil in the form of emulsion. But he had only two scanty loose discharges, and the belly continued in the same state, presenting especially the singular enlargement and overlapping of the iliac regions.

It was now apparent that, owing to long continuous distension of the bowels with fæces and gases, their muscular coat had lost its tone, in some regions at least, and especially in the cæcum and descending colon. It was then proposed by the clinical clerk to resort to galvanism for relief from this paralytic condition; which suggestion was at once adopted. It is more than twenty-five years since galvanism was recommended as a useful remedy in cases of obstinate constipation; and we can easily see that it may be useful, and upon what principle it acts. The first way of using it was by directing the galvanic current from the mouth to the anus; and in that way it seems to have been most effectual and prompt in some cases. But its action is thus rather painful; and ulterior observation has shown that passing the current in various directions through the abdomen itself may be sufficient. This remedy seemed even more applicable to the state of our patient after the bowels had been cleared out. And accordingly it acted with wonderful energy and success. After the current had been passed for some time from before backwards, as well as from side to side, he had in an hour a copious evacuation, in three hours another, and next morning a third. Flatus was also discharged in abundance; and the abdomen fell greatly, but still not completely, above all in the iliac regions. The pain of the galvanic action, however, had been so great that the patient begged to have a day's respite. In fact he declared his willingness, and confirmed it with an oath, that he would rather be shot again than submit to be galvanized a second time. On the second morning, however, the remedy was applied more gently, and on two mornings subsequently. He had a daily discharge from his bowels, and sometimes two. The abdomen had now become natural in size and form. Since then he had had a natural evacuation every morning without aid from either laxative or galvanism. He was discharged after being fourteen days in hospital.

This is a case a little out of the common run, but not without instruction; and I have therefore thought it well to bring the chief

circumstances under your notice. It is an excellent illustration of the influence exerted by galvanism over the animal functions. It appears to me to hold out a probability that the same remedy may prove serviceable in restoring the tone of the intestinal muscles, in other forms of inconvenient chronic flatulent distension of the abdomen.

ART. 63.—*Extracts from some Practical Observations on the Nature and Treatment of the Diseases of Europeans on their return from Tropical Climates.* By J. R. MARTIN, Esq., F.R.S.

(*Lancet*, July 9, 16, and 23, 1853.)

On Diarrhœa.—The late Dr. Matthew Baillie, who had seen much of the diseases of tropical invalids, describes a diarrhœa, of an "almost constantly fatal" character, in persons of a sallow complexion, "who have resided for a considerable time in warm climates." It consists "of an evacuation of a matter resembling in its appearance a mixture of water and lime, which is generally frothy on its surface. When this kind of purging has once taken place, it is hardly ever radically removed, although it may for some time be occasionally suspended." Dr. Baillie had "no opportunity of examining the condition of the liver and bowels in such patients after death;" and his treatment consisted of very small doses of mercury with astringents and bitters, and great care in diet. My object in the present paper is to exhibit the pathology and set forth the treatment of this complicated and dangerous disease.

In tropical invalids, suffering, on their return to Europe, from chronic diarrhœa, we perceive, along with the cachexia so generally characteristic of the class, an excessive irritability of the mind and body, an anxious countenance, and a blanched condition of the entire surface, conveying an impression that the patients have been drained of all their fluids, and thus become dried up and attenuated. The *vis vitæ* appears in such cases to be absolutely washed out of the body.

The abdomen is generally tumid, but occasionally, in common with the muscles and integuments of the entire frame, it is shrunk and shrivelled. Pain I have seldom been able to trace in this cavity, on the most careful exploration of its various regions by tactile examination and percussion.

The skin will generally be found dry, cool, and sometimes harsh to the touch; occasionally of a soft, velvety character; all indicating a diminished vitality. The state of the system, as already stated, is usually anæmic. There is much restlessness, the little sleep that is obtained being unrefreshing. The intestinal secretions are sometimes of the appearance and consistence of pea-soup, and at others serous or watery, or, as some patients describe them, like soap-and-water, or semi-fluid, and yeast-like, with little or no colouring matter. The evacuations are generally voided without any pain. They are always copious and exhausting, especially during the night or in the early morning. The urine, in all the instances in which I have examined

it, contained oxalate of lime in greater or lesser quantity. The appetite is sometimes voracious, at others defective and capricious.

The secondary or chronic diarrhœas of Europeans who have resided long in hot climates are always difficult of cure; and when of long standing, they constitute a class of disease dangerous and intractable beyond most others.

Whether the disease under consideration presents itself in the form of diarrhœa originally contracted as such in India, or as one of the sequelæ to acute tropical dysentery, as the result of hepatic disease, fevers, cholera, malaria, the abuse of mercury and purgatives, or from errors in diet and habits of life, we seldom find the disease simple in its pathological nature—that is, confined to the mucous digestive surface alone. On the contrary, a careful exploration of the abdominal regions, coupled with an attentive consideration of all the antecedent and attendant circumstances, will generally show that diarrhœa, in a large proportion of instances, is complicated with, if not mainly dependent on, chronic disorders and diseases of the liver. And here it is worthy of remark, that in India diarrhœa is a frequent and immediate evidence of dangerous congestion, or of inflammation of the parenchyma of the liver, and sometimes it results both in India and in Europe from abscess of that organ. The first approach of congestion or of inflammation of the liver suspends its secreting power, and diarrhœa is the result. An entire suspension, or its converse, an excessive flow of the biliary excretion, will generally produce diarrhœa. That there are in India, on the other hand, diarrhœas of a simple and uncomplicated nature, is a fact well known; but they are mostly acute and comparatively easy of cure, the subjects of them recovering on the spot, so that in effect none are sent home but the most severe and complicated cases.

Although chronic diarrhœa generally follows on previous tropical disease, I have seen it affect persons on their return to England, who during their residence in India, had never suffered from any of the diseases of that country. The health of such patients, however, had been enfeebled, and they were thus rendered susceptible to the influence of cold or damp, or to what is always more injurious to the returned Indian—to both conjoined. The returning Indian is often seized with diarrhœa from exposure to cold on board ship, especially if exposed to the spring easterly winds. Diarrhœas, of course, vary in their nature with their causes, and these last constitute the most necessary points for primary consideration in practice. One will depend on disorder or disease of the liver; another will result from fever; a third from dysentery; a fourth has for its cause a hyperæmia of the mucous digestive surfaces; while a fifth is associated with anæmia of the same textures, as well as of all the abdominal organs. I have seen cases in which the abuse of purgative medicines appeared to produce chronic diarrhœa, and others in which the same effect seemed to result from the large or the protracted use of calomel.

A morbid state of the biliary secretion, with its injurious influence in producing and maintaining the chronic bowel complaints here noticed, have been mentioned emphatically by all writers on the diseases of tropical climates, as a fact of most frequent occurrence; and

so also has the total absence of hepatic secretion, constituting what is termed the *white flux*. This latter form of diarrhœa, whether associated with intermittent fever or not, often recurs in paroxysms, more or less distant. On such occasions it is common to find the tongue assume a more or less red, abraded, or even ulcerated state; but it is worthy of careful remark that, on the restoration of the hepatic function, all these indications of mucous-intestinal irritation gradually subside.

Those who have visited the hill ranges of the Himalayas, have very generally observed a change to a pale, colourless state of the intestinal secretions soon after their ascent into those regions, resulting, it is presumed, from the comparative cold and damp of the mountain air. Diarrhœa is, in fact, a frequent result of this change of climate; so much so, indeed, as to have received from the British residents there the name of "the hill trot." Exposure upon active field service, or during the night and the early morning marches in India, especially during the cold season, often produces the same result. Both the conditions here mentioned, the pale secretion and the diarrhœa, would appear to result from hepatic congestion, the consequence of the sudden application of cold and damp to the surface of the body, previously relaxed by the heat of the plains. The result is, a diminished or suspended secretion of bile, and a consequent disorder in the entire process of digestion, the matters voided from the bowels being colourless, acrid, and irritating. By some very observant patients, I have been told, on the other hand, that in their instances diarrhœa commenced in India by enormous and long-continued "discharges of pure bile," which would appear to have exhausted the functions of the liver; then came the "white flux," with its complete suspension of the nutritive processes; the anæmia of all the organs and tissues of the body; the anæmic ulcerations (chronic aphthæ) of the mucous digestive surface; and all the attendant difficulties and dangers, so as to call into trying exercise the toilsome and difficult requirements of the physician.

[After urging the absolute necessity of the most rigid care in diet and dress, and inculcating the careful employment of established remedies on established rules, Mr. Martin proceeds.]

But in this capricious disease, so difficult of cure, the mineral acids may in their turn prove ineffective. We shall then do well to have recourse to the vegetable acids, which often exercise a signal power over chronic diarrhœa and dysentery. The subacid fruits have long been used in such cases in the South of Europe, in the East and West Indies, and the grapes of the Cape of Good Hope have during many years been celebrated for their efficacy in the chronic bowel disorders of the numerous invalids who annually resort to that colony from the Indian presidencies.

"The prejudice," says Tissot, "against fruits in dysentery is erroneous and pernicious." He adds:—"Ripe fruits of every sort, but particularly summer fruits, are a preservative against this disease." This writer then states that a Swiss regiment in the South of France being attacked with the dysentery, "the officers purchased the produce of several acres of a vineyard, and gave the soldiers the grapes,

which cured all those that were ill, and prevented any of the others from being attacked." Curtis states of the European hospitals of Madras in 1782-83, that the medical officers never forbade the use of fruits in the chronic stages of dysentery and diarrhœa, and especially, of such fruits as were astringents, as the mango, guava, pomegranate, and a portion of the rind was always directed to be eaten along with them, doubtless with the view to include the astringent property, tannin, contained in the rind, along with the acid of these fruits. Curtis adds, that when personally as reduced by chronic bowel complaint "as ever any European in India, the first turn towards recovery was found by him at the hospitable tables of Vizagapatam, where all the tropical fruits were in plenty." They were, "grateful and useful antiseptics."

Within these few years the Bale, or Baela fruit of Bengal, has been held to be very efficacious in the treatment of chronic dysentery and diarrhœa. This fruit, incorrectly termed the Bengal quince, for in reality it is of the orange tribe, is imported into England in its unripe dried state, and, also, in the state of sugared preserve made of the ripe fruit. The bark of the root, and the stems of the fresh leaves, are all said to contain medicinal properties. "As to the Bael fruit," says a professional friend in Calcutta, "I consider it the most certain remedy we possess for chronic dysentry and diarrhœa. I have frequently seen it arrest the progress of these diseases in twenty-four hours, after all other medical treatment had failed. On what the curative property of the fruit depends I know not; it is certainly not astringent to the taste, or, at all events, very slightly so. I am inclined to believe that much of its efficacy may reside in the thick mucilage which surrounds the seeds of the fruit. A singular property of the fruit is this, that it does not merely restrain undue action of the bowels, as in diarrhœa and dysentery, but also in cases of obstinate habitual constipation acts as a mild and certain laxative. It may be said in all cases to regulate the bowels." On the other hand, an able brother officer and friend, who went from Calcutta to Egypt, suffering from chronic dysentery, writes me:—"The figs and grapes of Egypt have done more for me than ever the Bael fruit of Bengal;" but here, doubtless, the climate of Egypt proved a powerful agent in aid of the fruits, which are everywhere confessedly beneficial in such cases.

I am indebted to Mr. Henry Pollock for the following account of his examination of the preserved and ripe fruit, as imported in its dried and preserved forms from Calcutta, by Mr. John Savory and by Mr. Pound, of Oxford Street, and by others:—"The pulp and the dried shell of the fruit do not appear to me to differ chemically in any respect, except as to quantity. They both contain—1, tannic acid; 2, a concrete essential oil; 3, a bitter principle, which is not precipitated by tribasic acetate of lead, and a vegetable acid. The pulp, as I received it, also contained a considerable quantity of sugar, in which it was preserved. All three of the substances I have mentioned exist in the largest quantity in the dry rind. There is most acid in the pulp."

Art. 64.—*Chloroform Inhalation and Air-enemata in a Case of Ileus.* By M. Merz.

(*Schw. C. Ztschr.*, i, 1853; *Schmidt's Jahrb.*, No. vi, p. 291, 1853.)

The case referred to is that of a healthy unmarried female, 27 years of age, who was seized with ileus, without any evident cause. Narcotics and drastics were tried without avail, when it occurred to Dr. Merz to put the patient under the influence of chloroform, so as to relax the spasm in the bowel, and then to inject air into the bowels. The relief was immediate and complete. No dates or other particulars are given in Schmidt's 'Jahrbucher,' from which we copy the notice.

Art. 65.—*Observations on the Non-recurrence of Dysentery.* By Austin Flint, M.D.

(*New York Journal of Medicine*, Sept., 1853.)

In a clinical report on dysentery, based on an analysis of 49 cases, in course of publication in the 'Buffalo Medical Journal,' Professor Flint has a section on the "Recurrence of the Disease," which we copy without abridgment.

The subjects of this section are interesting, and, so far as I know, have not been investigated by means of recorded facts. What remote effects, if any, in the organism, follow an attack of dysentery? Does it beget a predisposition to any other disease? Does it impair the constitutional vigour? Is the patient afterwards liable to renewed attacks of the disease, or is the susceptibility to the action of the cause or causes lessened or destroyed, so that the morbid processes having once taken place, there is greater security, if not entire exemption thereafter? These are questions interesting in themselves, and important in their pathological bearings. The facts in this collection of cases pertaining to these subjects are not numerous, but few as they are, they lead to the belief that they involve something more than coincidences: that they point to laws of the disease which do not appear as yet to have received attention. I will proceed to present the results developed by the analysis.

Of the 38 cases ending in recovery, in 16 the patients either continued under observation, or definite information was obtained respecting their subsequent health for periods varying from one year to thirteen years. To be more precise, with regard to these periods, the duration of the subsequent history in the cases respectively are as follows:—thirteen years, 1 case; seven years, 2 cases; five years, 2 cases; four years, 9 cases; two years, 1 case; and one year, 1 case. In all 16 cases. Of these 16 patients only 1 has died. This patient died with tuberculosis of the lungs, four years after recovering from dysentery. Of the remaining 15 cases, in all the health has been good during the periods, respectively, during which the patients remained under observation or within knowledge. I mean by this, that not one has suffered from any other important disease, and in nearly every instance there has been excellent health.

Not one of these 15 *patients has experienced a second attack of dysentery.* The result is rendered somewhat more striking by the fact that, exclusive of the case in which the date of the disease was but a year since, all the patients have been for several years past within the sphere of an epidemic influence,

the disease, as already stated, having prevailed more or less as an epidemic, in this city, in the autumnal months, for the last four years. I can also call to mind several cases of dysentery, occurring at least four years since, the histories of which were not taken, the patients, in the mean time, being under observation. In none of these instances has the disease been twice experienced. *I have not yet met with a second attack of dysentery.* It is worthy of notice that 3 of the cases in this collection occurred in one family at different dates, viz., 1 case, thirteen years ago; 1 four years; and 1 two years. In these instances new subjects were attacked, they escaping who had previously had the disease.

It would seem from these facts, that an attack of dysentery does not exert an unfavorable influence on the organism, that patients are not rendered thereby prone to any particular disease, but, on the other hand, enjoy good health. It would also seem, that patients are not liable to a repetition of the disease.

I would not be understood as presenting these inferences in the light of established truths. The number of observations is too small to warrant deductions which shall represent fixed laws of the disease. But, as already remarked, it is difficult to account for the facts on the hypothesis of their being due to mere coincidence; and I repeat that the facts point to the existence of laws which remain to be settled by further investigation. We are at least justified in concluding, from the data before us, that deterioration of the health subsequent to dysentery is not the general rule, and that an attack does not lead to any increased susceptibility to the cause or causes of the disease.

Art. 66.—*On the Employment of Iodine Injections in Chronic Dysentery.* By M. Delioux.

(*Dublin Medical Press*, July 15, 1852; and *Presse Méd. Belge*, 1853.)

On considering the success which has crowned the practice of those practitioners who have ventured to apply the tincture of iodine to the surface of such delicate and irritable membranes as the pleura and peritoneum, it struck the author that the endeavours to modify the lesions which give rise to diarrhœa and dysentery by this means would be equally successful. Iodine, although a powerful topical irritant, does not appear to be capable, especially when sufficiently diluted, of causing a more severe inflammation than other remedies, such as nitrate of silver, which may be injected with impunity into the great intestine. The iodine injections are prescribed in the following manner:

Alcoholic tincture of iodine, from 10 to 20 grammes (about 150 to 200 grains).

Iodide of potassium, from 1 to 2 grammes (about 15 to 30 grains).

Water, from 200 to 220 grammes (about 6 to 7 ounces).

The iodine is thus maintained in solution by the alkaline iodide. The author directs an emollient injection to be first administered, to clear out the intestine, and then the iodine injection, which thus acts at once, and with full force, on the mucous membrane.

He commenced by experimenting with small doses of tincture of iodine; but after having assured himself of the innocuousness of this injection, he raised the dose by degrees, and found that the quantity

might be increased without danger to 30 grammes (1 ounce and 12½ grains).

It often happens that the iodine injections cause only a slight colic; at other times, after the first or second, the alvine dejections augment, to diminish immediately, at the same time changing the character; at other times, they are diminished or suppressed immediately. In twelve cases reported in his 'Memoirs,' the intestinal affection was remarkably benefited or cured ten times; twice the treatment was unsuccessful, but did not aggravate the disease. To guard his patients against the possibility of suffering from the irritant effects of the iodine, he always at the same time prescribed a laudanum injection, which is to be administered in case the other should cause too much pain. In general this last prescription does not require to be used; if it is necessary to have recourse to it, it is with the certainty of remedying those effects which with me have never been severe.

He is of opinion that the iodine injections are also capable of acting on the surfaces of ulcers, abscesses, œdematous swellings, and hypertrophies of the cæcum and colon; an effect analogous to that produced by the application of tincture of iodine to the surfaces on the exterior of the body affected with ulceration, purulent sinuses, and insoluble tumours. Whether this agent acts by substitutive irritation, or by any other unexplained mode, it appears to me to exercise on the intestinal mucous membrane properties at once incarnative, healing, and resolvent. But it is not only on the superficies of the diseased organ that the injection is to act. The iodine is partly absorbed, and it is very probable that, consecutively, it may act on the thickened intestinal mucous membrane and mesenteric glands.

ART. 67.—*Extract from a Report on the Epidemic Dysentery in the North of Ireland in* 1852. By A. G. MALCOLM, M.D., Physician to the General Hospital, Belfast.

(*Dublin Quarterly Journal of Medicine*, Aug. 1853.)

"It appears, that while a considerable variety of forms obtained in this epidemic, the prevailing was decidedly the inflammatory. This is, we think, deducible not merely from the opinions of the reporters, but also from the comparatively superior efficacy of the antiphlogistic plan of treatment."

ART. 68.—*Peritonitis simulating Perforation.* By Dr. THIRIAL.

(*L'Union Méd. de Paris*, 1853; and *Lancet*, Aug. 13, 1853.)

M. Louis observed, (1826,) that "if, during an attack of acute disease, and in unexpected circumstances, there comes on suddenly violent pain in the belly, first local, and then general; if this pain is aggravated by pressure, and causes sinking of the features, nausea, and vomiting, one should diagnose the existence of an intestinal perforation." Dr. Thirial relates some cases to show the exceptions to this generally correct statement; some of these we will relate.

A young girl, æt. 20, was admitted into La Charité, under M. Rayer, May, 1853, with a cutaneous eruption, which was just cured, when, during the night, severe abdominal pain came on, and in two days she died, labouring under symptoms of acute peritonitis.

Upon the examination of the body, a stream of water was sent through the intestinal canal, with the idea of there being some point of perforation; none, however, was found; the alimentary canal was healthy; there was no constriction; a lumbricus, four inches in length, was found in the stomach. The peritoneum was injected; there was a quantity of serum and flakes of fibrin in the abdominal cavity.

In October, 1835, a young girl, æt. 21, during convalescence from a mild attack of typhoid fever, became suddenly attacked with severe pain in the abdomen, bilious vomiting, depression of the pulse, and general prostration. Leeches were applied; then opium was given in large doses, as recommended by Dr. Stokes, of Dublin; the patient died. Upon examination, the abdominal cavity was found full of sero-purulent fluid; there were flakes of lymph upon the mesentery and adhesion of the intestines, but the interior of the intestinal canal was sound, except near the valve of the ileum, where Peyer's patches of glands appeared a little more elevated than usual.

Ten years after the occurrence of the last case, there were two other similar cases in the same hospital, and under the same physician.

In the one, numerous abscesses had formed over the body during convalescence from fever; then, some days after an attack of diarrhœa, severe abdominal pains came on, and the patient died with all the symptoms of acute peritonitis. In the other, the same symptoms manifested themselves after typhoid fever, in a young man who had formerly suffered from rheumatism and endocarditis. There was no intestinal perforation in either case.

ART. 69.—*On the Treatment of Tape-Worm by the Male-Shield-Fern.* By ROBERT CHRISTISON, M.D., V.P.R.S.E., Professor of Materia Medica in the University of Edinburgh; and Ordinary Physician to the Queen in Scotland.

(*Edinburgh Monthly Journal*, July, 1853.)

Since the notice, which appeared in the 'Monthly Medical Journal' for last June, of the effects of the oleo-resinous extract, obtained by ether from the root of the male-shield-fern, in the treatment of tape-worm, I have had many communications from my friends at a distance, stating their experience with it, or consulting me as to its administration. The cases which have thus come under my notice, in greater or less detail, are now so numerous, that it may be of service to make known the results, in order that the medical profession may judge whether the very sanguine expectations formed by M. Peschier, who first used the male-shield-fern in the form of an etherial extract, are likely to be realised in this country.

The cases which have been communicated to me amount to upwards of twenty. In some, I was consulted about the treatment

before the remedy was given. In several, the worm discharged was sent to me in evidence of the efficacy of the remedy. The cases occurred in various parts of the country, some in England, some in Scotland.

In every case without exception the worm was discharged after a single dose, and usually in one mass. In some it was brought away without any laxative, and occasionally in that case with very little feculent discharge accompanying it. For the most part there was no pain or other uneasiness, either before or during its action. This was the case even in an instance in which the tendency to the disease had existed for no less than seventeen years, and in which the worm evacuated was the largest and strongest I have ever seen. Several patients, who had often previously used other anthelmintics, have noticed this absence of uneasiness during the action of the male-shield-fern, as something different from what they had experienced invariably before. It must be allowed, however, that several other individuals have complained of griping, sickness, or indescribable discomfort in the abdomen, and sometimes even of vomiting. But it admits of question, whether these occurrences depend on any direct action of the remedy on the human body, or upon the disturbed condition of the worm under the poisonous operation of the remedy on it. In fact, we have yet to learn that the male-shield-fern exerts any action on the human stomach or intestines, in the course of its deadly action on the parasitical inhabitants of them.

In only two cases have I heard of the disease having reappeared; and in both, the interval has been about six months. Of course there may have been others which I have not heard of. When the worm does not show itself in the discharges for some months after the effective operation of the remedy, I think it is more consistent with reason to say that the disease had returned, than to hold with some that the cure was imperfect, that ova were left to reproduce the worm, or that the head had remained to sprout again and renew the multitudinous joints behind it. Nevertheless, I have latterly advised the subjects of tænia to repeat the dose of the extract once a month for a little, until joints shall have ceased for some time to appear. In none of these cases have any joints been subsequently seen in this way. But it is a very simple precaution to take occasionally a remedy so little disagreeable. A patient, as to whom I was consulted by Dr. Graham of Cupar, had been liable to a return of the disease every few months for nearly twenty years, during most of which time he was in the army, and got oil of turpentine, with partial success, from the successive medical officers of the regiments in which he served. In this instance, I have recommended an occasional dose of male-shield-fern as a security. The first dose brought away a very large worm without occasioning any inconvenience; and no joints had appeared in the discharges eight months afterwards.

At first I gave eighteen grains for a dose. But afterwards, and, I admit, without any reason except a desire for greater certainty, I have advised an increased dose of twenty-four grains. On the whole there has been less complaint made of uneasiness during the operation of the remedy since the larger dose has been used,—possibly because the

worm is killed more speedily, and that the drug has no inconvenient action of its own upon the human alimentary canal, although given even in the larger quantity.

It was stated above that the etherial extract of male-shield-fern had not failed in a single instance to bring away the worm with the first dose. In one case, which occurred in this city, it did seem to fail. But on repetition of the trial, with an extract prepared under my own instructions and superintendence, the effect was complete and speedy, as in all the other cases. On proceeding to inquire into the circumstances of the previous trial, I found that the extract had been obtained from a druggist, of unquestionable skill, who had made it for the first time; and it appeared that his preparation was of firmer consistence and more resinous-like than what I had been accustomed to use and recommend as made by another druggist in Edinburgh; and its taste was decidedly different. This imperfect extract proved to have been prepared from powdered root obtained from London; so that it was reasonable to conclude that the wrong root had been collected, or that it had been incorrectly dried. I believe that every druggist in good business in Edinburgh can now supply the genuine article.

As no experiments have yet been tried with other ferns, the selection of the proper species, *Lastræa Filix-mas*, must be considered for the present an important condition of success. Several other ferns, one common, others not so, may be readily mistaken for the true one by an uninstructed, or careless, or unconscientious collector. It is itself luckily very common. Except the *Pteris aquilina*, no other fern is so familiarly seen, in every dell of Scotland at least. The only other common one, and which indeed often grows in immediate proximity, the *Athyrium Filix-Femina*, is known by the frond; which, whether luxuriant in summer, or withered in winter, is easily recognised to be doubly-pinnate, and not, as in the true plant, singly-pinnate.

Peschier says the plant is efficacious chiefly between May and September, inclusive. We may trust so good an observer for the fact, that the root is efficacious in that interval. But it so happens that all my own specimens of the oleo-resin were made with fresh roots collected in February, two months at least before the young fronds begin in Scotland to peep above ground; and the preparation, which has been got in the shops of Edinburgh for almost all the cases reported to me, was prepared about the same time by one druggist. Hence I suppose the root is quite efficacious enough at any season, if it be used fresh. I know nothing of the effect of keeping the root long. Peschier thought the oleo-resin began to lose activity in a year. I have known it used of that age with complete effect.

I might easily illustrate these statements, according to the rule of the day, by a long list of cases, with uniform details, tiresome by their reiteration. But they all come to the same thing as the last which was communicated to me the other day by a late pupil, Dr. J. C. Davies, of Holywell, Flintshire, in the following terms:—"According to your advice, I sent to Edinburgh for the extract of the

male-shield-fern, and have administered it in two cases as directed by you, with the most satisfactory results."

In conclusion, my experience of the male-shield-fern corresponds precisely with the much more extended observation of Peschier, at Geneva, more than a quarter of a century ago. I am persuaded, therefore, that it is easy, with a few simple precautions, to obtain from a common indigenous plant a more efficacious and less disagreeable anthelmintic for the expulsion of tænia, than from either the Abyssinian kousso, the Continental pomegranate, or American turpentine. It is surprising that Peschier's observations, made on a very large scale indeed, have attracted so little attention in Britain until the late notice in the 'Edinburgh Monthly Journal.' I can only say this has not been for want of a strong recommendation on my own part, both in my lectures constantly since 1833, and also in my 'Dispensatory,' when first published in 1842.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 70.—*On the Frequent Occurrence of Indigo in Human Urine, and on its Chemical and Physiological Relations.* By H. H. HASSALL, M.D., Physician to the Royal Free Hospital.

(*Proceedings of the Royal Society.*)

The following form the conclusions of the author's paper:

1st. That blue indigo is frequently formed in human urine, the quantity being subject to the greatest variation; in some cases it is so considerable as to impart a deep green, or bluish-green colour to the whole urine; a pellicle of nearly pure indigo also extending over the entire surface of the liquid; while in others it is so small that it can only be detected by means of the microscope.

2d. That for the formation of this indigo, it is in general necessary that the urine should be exposed to the air for some days in an open vessel, oxygen being absorbed and the blue indigo developed. Whatever facilitates therefore oxygenation, as free exposure to light and air, warmth and sunshine, hastens the appearance of the blue indigo; hence, in summer, the changes described take place much more quickly than in winter; on the contrary, these changes are retarded, and even stayed, by exclusion of the atmosphere. Blue indigo may even be deprived of its colour and reformed, alternately, according as air is excluded or admitted to urine containing it. From some of the cases recorded, it would appear, however, that blue indigo is occasionally formed in the system, and is voided as such in the urine.

3d. That there is usually found with the blue indigo, where the amount of this is considerable, a brown extractive, sometimes in large quantity, the aqueous solution of which, by exposure to air, yields a further supply of coloured indigo, and which closely resembles hæmatin in its chemical manifestations and elementary composition. There is, therefore, great reason for believing that in the majority of the cases here recorded, the blue indigo was derived from altered hæmatin,

although it is, at the same time, probable that in some cases it is formed from modified urine pigment, which is itself supposed to be a modification of hæmatin. Between the greater number of the animal colouring matters, there is the closest relationship in chemical composition, so that the transformation of the one into the other would appear to be both easy and natural.

4th. That the urines in which the coloured indigo occurs in the largest quantity, are usually of a pale straw colour, readily becoming turbid, alkaline, and of low specific gravity. Small quantities of indigo are, however, frequently found in urines possessing characters the very reverse, that is, in such as are high-coloured, acid, and of high specific gravity; but, as a rule, in these urines the blue pigment is usually absent.

5th. That as coloured indigo does not occur in healthy urine, and since where the amount of this is at all considerable, it is accompanied with strongly-marked symptoms of deranged health, the formation of blue indigo in urine must be regarded as a strictly pathological phenomenon, apparently associated rather with some general morbid condition, than essentially with disease of any one organ; although there is reason for believing that the blue deposit is met with very frequently in Bright's disease, and in affections of the organs of respiration; it should, however, be remarked, that none of the worst cases of indigo in the urine which the author met with were cases of Bright's disease.

Art. 71.—*Significance of Coagula in the Urine in Kidney Disease.* By Dr. Mayer.

(*Virchow's Archiv*, Bd. v, p. 198, 1852; and *Medico-Chir. Rev.*, July, 1853.)

In order to examine into the validity of Virchow's opinion, that under the term "Morbus Brightii" several processes are confounded (viz., "simple catarrhal," "croupous, and degenerative processes"), the author has examined the urine in a number of persons, and describes the following coagula:

1. The casts of renal tubes usually described.

2. Pale, flattened, homogeneous, or longitudinally plaited coagula, dissolving in acetic and hydrochloric acids, and therefore neither fibrinous nor mucous. They decidedly come from the kidney, as they are seen in its structure.

3. Long, very pale, membranous, and plaited, often coiled threads, such as are delineated by Rayer,* and considered to be mucus. These have never been found in the kidney.

4. Coagula resembling those described by Donne,† as derived from the prostate. They are two or three times as broad as the renal casts.

Referring now solely to the true kidney-tube casts, these were found in 22 cases out of 44 cases indiscriminately examined. 11 of these cases were fatal, and on section, in 9, there was croupous-

* Mém. de la Soc. de Biol., Paris, 1851, pl. iii, figs. 3, 4.

† Cours de Microscopie, fig. 57.

catarrhal (croupös-katarrhalische), and in 2, degeneration processes. 6 of these cases are detailed at length, with, as far as the kidneys are concerned, the following titles:—1. Lightest grade of croup, with scarcely perceptible catarrh of the kidneys; 2. Nephritis crouposa; 3. Croupous-catarrhal kidney-inflammation; 4. Catarrhal-croupous kidney-inflammation; 5. Intense catarrhal-croupous nephritis; 6. Chronic degeneration of kidneys. [We have given these titles to show our readers the phraseology now very current in Germany.] The author then proceeds to his conclusions, and states that, in the lightest form of croupous inflammation, albumen and cylindrical kidney coagula appear in the urine, or, in other words, no croup of the kidney can exist without renal casts. On the contrary, catarrh of the kidney exists with simple albuminuria without renal casts; and the relative quantity of albumen and casts in mixed cases of catarrh and kidney-croup, observes no constant relation. With respect to the possibility of diagnosing "croupous nephritis" and deeper degenerative processes by the condition of the urine, the author believes, that although in some cases the colossal quantity of albumen, of blood-corpuscles, and of fibrinous coagula, may indicate an *acute* degenerative kidney-disease, yet that from the characters of the renal-casts, "the distinction between croupous affections and *chronic*, and even often *subacute*, degenerations is not possible." Whether in these different forms of disease a different chemical composition of the urine exists remains to be seen.

The cases narrated prove, also, that croupous inflammation can last for a long time without leading to degeneration; it can also be of very short duration, and be entirely cured. Of rapidly cured kidney-croup, three cases are related. The first was a case of pleuritic effusion; on the third day, there were a few pale kidney-casts and albumen in the urine; the casts were seen for two days; the albumen existed for three, and during this time the pleural effusion occurred; in the succeeding fifteen days, absorption went on, but neither casts nor albumen again appeared. The second case was one of pneumonia, with casts in the urine from the second to the fifteenth day, and albumen to the tenth. The third case was also pneumonia, with casts and albuminuria appearing on the fourth day; the albumen disappeared on the next day; the casts lasted till the eighth, when the pneumonia was being resolved; on the tenth day the patient became worse, and on the following day pleuritic effusion was present; tube-casts (with albuminuria) reappeared, and lasted till the sixteenth day.

ART. 72.—*Case of Paralysis of the Bladder successfully treated by Galvanism.* By W. FRAZER, M.D., Physician to the Montreal General Hospital.

(*Montreal Monthly Journal*, Sept., 1853.)

This case is one of great practical interest. It holds out, if we mistake not, a rational chance of relief to a number of patients, whose cases have been as wearisome to themselves as to their medical attendants.

John Matthews, æt. 60, a British army pensioner, of slender bodily confor-

mation, was admitted into the hospital on the 24th of May, 1853, under Dr. Fraser, complaining of inability to pass urine. He states that four days previously he got himself wet, on the subsequent days was seized with a severe rigor, and on the day before admission was seen by Dr. Maclagan of the 20th Regiment, who relieved him by introducing a catheter, and recommended him to come to the hospital.

Present Condition.—Slightly feverish; tongue covered with a pasty white fur, and its papillæ enlarged. When he attempts to make water, only a few drops dribble away; the prostate seems somewhat enlarged, which is probably senile; no particular pain; has a hydrocele of long standing. The catheter was introduced, and about 12 ounces of urine drawn off, a portion of which was ordered to be reserved for examination. The instrument was directed to be passed thrice daily; its introduction was attended with little or no difficulty. He was ordered an aperient draught, and a warm bath in the evening.

26th.—On examination, the urine was found to be normal in quality; no improvement in regard to passing it; complains of pain about the perineum. Ordered a drachm of the tincture of the ergot of rye four times a day, and a blister over the sacrum, with the endermic application of strychnine when the cuticle becomes sufficiently raised by the blister.

27th.—At noon, a portion of the cuticle having been removed from the blistered part, ¼ grain of finely pulverised strychnine was sprinkled over the cutis vera, and at 6, p. m. ½ a grain more.

30th.—No marked improvement as regards ability to pass urine, which is now, when drawn off with the catheter, deeply coloured with blood; is feverish, and complains of sickness and headache. Omit ergot of rye, and let him have one ounce of the following mixture every fourth hour:—Acetate of potash, ½ oz.; wine of ipecacuanha, 1 drachm; water 6 oz.

31st.—Fever gone; feels better, but is still unable to pass his urine, in fact, there is no perceptible improvement in that respect, from the treatment hitherto adopted. The parietes of the bladder were therefore ordered to be galvanized in the following manner: A silver catheter was introduced into the bladder, which was made to rest on the fundus of that organ, and a female catheter into the rectum, which was made to rest on the recto-vesical parietes; they were then put in connection with the poles of an electro-galvanic machine, which was put at first into gentle action, and then a pretty strong current kept up for 10 minutes, which produced powerful contractions, tending to expel the catheters. He was then ordered an aperient draught and a tepid bath.

June 1st.—Decided improvement, passes the greater portion of his urine spontaneously, though not able to empty his bladder completely; the urine is no longer bloody.

2d.—Still improving. Galvanism was reapplied on the 31st, and with the same effect.

3d.—Up to this period the catheter was employed at first thrice daily, latterly twice, but he has now so far recovered as to render its use unnecessary; it was therefore ordered to be discontinued.

4th.—Still going on well, but weak. Ordered four ounces of wine daily, and a more nutritious diet.

6th.—General health improving, but has a frequent desire to micturate; the stream stops suddenly, and the urine, which has an acid reaction, is loaded with mucus. Ordered a wine-glassful of the following mixture four or five times daily. Leaves of uva ursi, 1 oz.; hops, ½ oz.; boiling water, 1 quart. Infuse, strain, and add carbonate of soda 4 scruples.

8th.—At 8 o'clock this morning had a rigor, accompanied with a sharp

pain about the lower border of the left ribs, for which a turpentine stupe was applied with benefit. Evening.—From his inability to pass urine, the catheter was introduced twice during the day. The urine is, at the time of being drawn off, turbid, with a considerable flocculent deposit of mucus. He complains of severe pain and tenderness about the neck of the bladder and urethra. Ordered a warm hip bath, and an enema of tepid water, after which, should the pain continue, a suppository, containing two grains of opium, to be administered. This latter remedy was found necessary, and when exhibited, gave him marked relief.

11th.—Still complains of some degree of pain about the base of the bladder and urethra, but is now perfectly able to pass urine when requisite. The suppository of last report to be repeated in the evening, and 2 grs. of iodide of potassium added to each dose of the uva ursi mixture.

14th.—General health much improved. Urine less turbid. Continue.

19th.—Is feverish; complains of wandering pains about epigastrium, and a severe scalding pain on passing urine; has probably been exposed to cold about the galleries. Fancies the mixture disagrees with his stomach. Omit it, and let him have 1 oz. of the following every four hours: acetate of potash, 2 drachms; ipecac. wine, 1 drachm; liquor potassæ, 1 drachm; water, 6 oz. and linseed tea for drink.

27th.—Looks and feels healthier and stronger; passes urine quite freely, and with but slight pain in the urethra.

1st July—Discharged. His general health much improved, and the complaint for which he entered (retention of urine), entirely removed, having now no difficulty in passing water. At his own request, the old hydrocele was punctured, and 8 oz. of clear fluid drawn off, which he says had been two years in collecting.

Remarks.—The cause of the paralysis of the bladder in this case was evidently over-distension of its muscular fibres, occasioned by the retention of urine, which resulted from the wetting which Matthews got a few days prior to his admission into the Hospital. The prompt and permanent benefit derived, in this rather unfavorable case, considering the man's age, &c., from the direct application of galvanism to the parietes of the bladder, after the failure of the ergot of rye, and other means employed, prove it to be an eligible therapeutic agent in similar cases; and the established physiological doctrine, that although the muscles of animal life are ordinarily and best called into action through stimulants applied to their nerves, the muscles of organic life are usually called into action by the direct application of a stimulus to their surface, and are with difficulty made to contract by stimulants applied to their nerves, satisfactorily explains the modus operandi of galvanism in overcoming such a form of paralysis of the bladder as this was, and, moreover, shows the practice to be based on principles as scientific as it was successful in the above case.

The low degree of vitality of the coats of the bladder, owing to old age and the over-distention to which they had been so lately subjected, together with the irritation caused by passing the catheter, and sudden changes of the weather, to the influence of which Matthews exposed himself by walking about the galleries, were the apparent causes of the subsequent irritation of the urinary mucous membrane.

Art. 73.—*Laws which influence the Secretion of Sugar in Diabetes.* By Dr. Moritz Traube.

(*Archiv. für Heilkunde*, and *Dublin Quarterly Journal of Medicine*, Nov., 1852.)

It has hitherto been thought sufficient to determine the quantity of sugar contained in the urine, either by analysing that passed in the morning, or by extracting the saccharine matter from the entire amount evacuated during the twenty-four hours. There are, however, various circumstances in the diurnal life of the patient which may exercise a marked influence on this pathological secretion, the effects of which cannot be observed by following either of the above plans. Led by these considerations, Dr. Moritz Traube has in his researches pursued a method different from that adopted by other observers, and has thus obtained results which deserve to be briefly explained.

The patient on whom his observations were made was a young man of 28, who had for a short time laboured under diabetes. Of the ordinary symptoms of the disease, the best marked were the excretion of highly saccharine urine, extreme thirst, great increase of appetite, irregularity of the bowels, and disturbed sleep. Emaciation, however, had made but little progress, nor was there much perceptible dryness of skin. His regimen was so directed as to exclude as much as possible all amylaceous food. The urine was analysed twenty-five times from the 1st to the 7th of January, and the following are the principal conclusions deduced by the author from his experiments: 1. The proportion of sugar contained in the urine was very different, according to the period of the day at which it was passed, varying from 225 grains to 26 grains in 100 cubic centimetres (39·3708 cubic inches, equal to 22 fluid ounces and 6 drachms nearly). This fact proves how little can be inferred of the intensity of a case of diabetes from analyses conducted in the ordinary mode. 2. The quantity of sugar secreted was liable to remarkable oscillations—the maximum was 88 grains in the hour, the minimum rather more than $2\frac{1}{2}$. 3. The amount of sugar was very sensibly augmented for a few hours after a hearty meal. 4. If the patient remained eleven hours without taking nourishment, it decreased so rapidly that during the last seven hours of this period a very insignificant quantity only could be found—less than 3 grains, for example, instead of upwards of a drachm, in the hour. 5. Usually, no sugar was excreted during the latter hours of the night; that is to say, at as long an interval as possible after a meal. 6. Almost all the sugar was derived from the meals, and disappeared after digestion was completed.

Five months subsequently, the patient, very much emaciated, and with greatly increased suffering, placed himself under the treatment by the Carlsbad water, and adopted a stricter regimen. The effect of this double plan was to produce a considerable improvement; his thirst and appetite were again restrained within nearly natural limits, and the excretion of urine was much diminished. Except that sugar was still proved to be present, the patient no longer presented any of the symptoms of diabetes. The analyses, repeated from the 26th of June to 16th of July, furnished the following results: 1. The propor-

tion of sugar varied from 2 drachms to 17 grains in 100 centimetres (22 fluid ounces and 6 drachms, nearly) of urine. 2. The quantity of sugar excreted was greater than in the preceding experiments—the minimum being 24½ grains, the maximum rather more than three drachms. 3. It increased in proportion as the urine was examined nearer to a meal, and diminished according to the length of time which had elapsed after one; but no urine was now found, as formerly, free from sugar. 4. When a long time had elapsed without the patient having taken nourishment, the oscillations already described were no longer observed; the quantity remained stationary at about 45 grains. 5. There are two stages in diabetes; during the first, all the sugar contained in the urine is furnished directly by the ingesta; during the second, the sugar is not derived solely from the food, but is the result of a peculiar secretion of the liver. 6. In order to estimate the intensity of a diabetes, the urine must be analysed in the morning before a meal has been taken: if it is free from sugar, the disease is in the first stage; if it contains saccharine matter, the diabetes is in the second stage, and is advanced in proportion to the quantity of sugar voided in each hour. 7. As to treatment, the alkaline carbonates, administered in the form of Carlsbad water, while they modified certain symptoms, did not exercise any influence on the intensity of the disease.

Art. 74.—*On Intermitting Diabetes, and on the Diabetes of Old Age.* By H. B. Jones, f.r.s., Physician to St. George's Hospital.

(*Medical Times and Gazette*, July 30, 1853.)

The author's object in this communication is to point out some phenomena connected with diabetes, which he had not found mentioned by other writers. Preliminary to the record of the cases, the author offered some observations on the incorrect results obtained by calculating the amount of sugar present in the urine from the specific gravity. If diabetic urines were solutions of nothing but sugar in distilled water, the tables by Dr. Henry, and the amount of sugar calculated from the specific gravity, would give all the information required; but a multitude of other substances were present besides sugar, each of which was variable, and each of which might cause the specific gravity to vary, whilst the quantity of sugar might remain constant. To be accurate, therefore, the amount of sugar should always be determined by direct experiment, and never calculated from the specific gravity. Results were given, exhibiting the specific gravity, the amount of sugar calculated from solid apparatus, and the absolute amount of sugar obtained by direct analysis. On the subject of intermitting diabetes, the author observed that there could be little doubt that our knowledge of the nature of this disorder might be extended by means of accurate determination of the varieties in the amount of sugar in the urine passed at different periods of the day, and under different circumstances. His object in relation to this form of the disease was to record some cases in which, either from the medical treatment or the regimen, or the natural course of the complaint, the

variation in the amount of sugar was not from much to little, but from highly saccharine urine to total absence of sugar. The state of the urine a few hours after the sugar had disappeared, and an hour or two before it reappeared, was most especially worthy of attention, inasmuch as it might lead to a truer knowledge of the state of the system which preceded the commencement of diabetes. In intermitting diabetes the disease might be seen beginning and ending, and the explanation of the state of the urine which preceded the appearance of the sugar and followed its disappearance, must be included in the true theory of diabetes. Moreover, a better knowledge of the antecedent phenomena might enable us to ward off the disease, if not to treat it with more success. The records of seven cases of the intermitting form of the disease were given, and very minute particulars in several, illustrated the amount of sugar present in the urine at stated intervals in the twenty-four hours, as well as the influence of particular forms of diet on the proportion of sugar excreted. In these cases the state of the urine just after the sugar had disappeared was worthy of attention. A remarkable excess of urea was constantly found before and after the sugar disappeared; and although this might be attributed to the animal diet, yet the occurrence of free uric acid and oxalate of lime in the urine, pointed most clearly to a state of indigestion which was every day to be found without any sugar appearing in the urine. The author offered the following theoretical contrast between ordinary and saccharine indigestion:—ordinary indigestion showed itself in a want of action on the sugar and starch taken as food, in consequence of which excessive acidity was produced,—that is, the changes in the non-nitrogenous food were imperfect. Imperfect changes also occurred in the nitrogenous food; this was made evident by an excess of urates and urea in the urine, and perhaps also by the formation of oxalate of lime. In diabetic indigestion the effect might be traced also on the two great classes of food. At first from the non-nitrogenous food sugar was formed instead of acid. Ultimately, if not simultaneously, sometimes the arrest of healthy changes extended to the albuminous food, and, instead of an excess of urates and urea, other products were formed, one of which was sugar. It was possible that some of these products might be found in the urine. Possibly benzoic acid, which is present in some cases of diabetes, in variable quantities, might be one of the new products. Whether this theory were true or not, it was of practical importance to remark the tendency to acidity in these cases of intermitting diabetes. In such cases animal diet alone, or with alkalies, might stop the formation of sugar. It followed, also, that when oxalate of lime, uric acid, and excess of urea, were found in the urine, it was probable that the diabetes might be temporarily, if not permanently, removed. The occurrence or absence of these substances in the urine might lead to the recognition of the stage of the disease, and they might thus guide us in our prognosis and treatment.

The second part of the communication related to the frequency of diabetes in old age. Reference is made to a paper, by M. Dechambre, on this subject, who concluded, from observations made on the urine of old people at the Salpêtrière, that sugar was habitually present in

the urine of old people. The author gave the particulars of nine cases of diabetes in elderly people, and thought that the occurrence of this affection at the latter periods of life pointed also to the theory of diabetes as an indigestion resulting from an arrest of healthy changes in the food. The cases mentioned in this communication were, in the opinion of the author, opposed to the view of diabetes depending upon an affection of the nerves or of the liver; and his daily observation led him rather to the view taken by Dr. Prout, that diabetes was an indigestion, and that it first affected the non-nitrogenous, and afterwards the nitrogenous, constituents of our food. As regarded treatment, whatever was beneficial for excessive acidity, was found equally serviceable in diabetes. Alkalies were used in all the cases with benefit. Small meals, free from sugar and acid, and the substances that could give rise to sugar and acids, constituted the best diet. He found, also, that vegetable acids with alkalies were occasionally useful. In a foot-note the author mentioned some experiments he had not yet published, determining the quantity of sugar in several kinds of beer and wine. Porter contained from 27 to 57 grains of sugar in each ounce of liquid; ale from 43 to 50 grains; beer 25 to 40 grains; port wine 8·5 to 11 grains; sherry 2 to 4·7 grains; claret none. The absence of all sugar, and the presence of a little alcohol, caused claret to taste highly acid, while the quantity absolutely present was not more, sometimes less, than in other wines which have no acid taste, as, for example, most port wine.

Art. 75.—*Spontaneous Gangrene in Glucosuria.*
By M. Marchal, de Calvé.

(*L'Union Médicale*, No. 56.)

Two years ago the author observed a case of spontaneous gangrene in a diabetic patient, who first lost the little toe, and, continuing to void sugar in the urine, eventually succumbed with gangrene of nearly the entire foot. Since this observation, made fifteen years ago, Dr. Landouzy, of Rheims, communicated a case of gangrene of both legs in a diabetic patient. A third case has occurred recently.

M. Marchal was called into consultation, near Paris, to see a patient suffering from two gangrenous spots upon the dorsal region. One, very large, and surrounded by phlegmonous redness and œdema, extended along the outer part of the left thigh. The patient, upon inquiry, stated, that, for many years, he had drunk much, and had voided large quantities of urine. The urine examined by M. Duroy, an experienced chemist, yielded much sugar. As, in one of the preceding cases, the patient had suffered frequently from boils in various parts of the body, M. Marchal purposes carrying on his investigations further at a future period, but thought the fact of sufficient importance to lay before the Society.

ART. 76.—*Opium in Diabetes Mellitus.* By M. SCHUTZENBERGER, Professor of Clinical Medicine at the Faculty of Strasbourg.

(*Gazette Méd. de Strasbourg*, 1853 ; and *Lancet*, Aug. 6, 1853.)

M. Schutzenberger has just published a case, which would tend to show that diabetes mellitus may, by appropriate treatment, be in some degree arrested, and the patients be restored to comparative health. M. Hepp, the chief pharmacien to the hospital, examined the urine almost day by day, and thus was the physician able to ascertain with great accuracy the progress of the case, and the influence of the treatment.

The patient is a countrywoman, forty-seven years of age, who, after enjoying good health all her life, grew gradually thin, lost her strength, and was tormented with great thirst and a most voracious hunger. She was admitted into the hospital on the 10th of November, 1851, and presented all the symptoms of the disease. From the 11th to the 14th the patient was watched without any regulation as to the food or medicine, and she was noticed to feed largely. For the subsequent week the food, which consisted of a quarter of a pound of bread, two chops, two eggs, and a small allowance of other meat, was carefully regulated, but no medicine given. In this week the quantity of sugar diminished from seventy parts of sugar in a thousand parts of urine to fifty-six. An attempt was then made to substitute gluten bread for the ordinary article, but the patient could not take it.

The use of opium was began at this period, three pills, of a little less than half a grain each, being taken in one day, and the tolerance was soon sufficiently established to increase the number of pills to twenty per diem. The patient was taking at the same time fifteen grains of theriaca, (an ancient compound having opium for its basis,) and from fifteen to forty-five grains of bicarbonate of ammonia. With these medicines and the above-mentioned diet all the symptoms improved; the amount of urine did not exceed the fluids ingested, and the specific gravity became reduced from 1·0376 to 1·0278. The absolute amount of glucose excreted in twenty-four hours fell, at the end of a fortnight, from about half a pound to a little more than two ounces.

For the next three weeks no change of importance took place; but as it was noticed that the patient procured sweetened diet drinks, she was restricted to plain water, to weak solutions of carbonate of soda, or Vichy water. This change gave rise to a fresh diminution in the amount of glucose, which became reduced from half a pound, the original quantity excreted in the twenty-four hours, to two ounces, or 19·78 parts in a thousand parts of urine. The opium was left off on several occasions, on account of giddiness, somnolence, or gastric derangement, but the use of the medicines was always resumed in a short time.

On the 20th of January, 1852, almost two months after admission, bread was given up altogether, and on the next day the absolute amount of sugar fell to a little more than three drachms in the twenty-four hours. Finally, from the 22d to the 30th of January, glucose entirely disappeared; but it was now and then found again afterwards,

varying from between a third of an ounce to two ounces in the twenty-four hours. These variations were all caused by errors of diet, and the patient generally confessed her irregularities. Milk had no influence on the amount of glucose; one pint a day produced no unpleasant effect, and the patient consumed besides, in the course of the summer, small quantities of olive oil and butter.

It would be tedious to follow up all the oscillations during the whole of 1852; suffice it to say, that for days together no glucose was excreted; it then used to reappear in the urine and again vanish entirely. The general health improved in the meanwhile, and at the beginning of 1853, the treatment by opium, alkalies, and the regulated diet, having all the time been carefully persevered in; the glucose disappeared completely from the urine, and the patient was able to resume the use of bread, of which she took from three ounces to a quarter of a pound a day, along with potatoes and vegetables. Glucose was only once noticed in the urine in February, 1853, but soon disappeared again.

The patient can now use a mixed kind of food without excreting any sugar—viz., meat, a quarter of a pound of bread, and vegetables; but the tendency to relapse is certainly not annihilated, as was shown in February; which relapse was caused by the ingestion of a large quantity of potatoes. The health is good, the thirst is not troublesome, but the patient eats little, and the muscular system has certainly not recovered its former energy. In March, 1853, a little albumen was detected in the urine, but no sugar re-appeared. The patient will be kept in the hospital to the end of next winter; and though M. Schutzenberger does not look upon the cure as completely radical, he thinks that relapses may be avoided by adhering to a diet composed of meat and fæculent substances in regulated proportions.

Art. 77.—*Yeast in Diabetes.* By Dr. Wood.

(*American Quarterly Journal of Medical Sciences*, April, 1853.)

At a recent meeting of the Philadelphia College of Physicians, (Dec. 1, 1852), Dr. Wood stated that he had a case of diabetes then under treatment in the Pensylvania Hospital, which, in the results thus far obtained, was not without interest in a therapeutic point of view.

"Mary Ann Cain, born in Ireland, a domestic, æt. 30, was admitted into the hospital, November 16, 1852, for palpitation of the heart. Upon examination, the heart was found acting with unusual energy and quickness; but the sounds were normal. Her general condition was one of extreme emaciation, her weight eighty-three pounds, the pulse frequent but not strong, the tongue red and smooth. She stated that she suffered much from constant thirst, and had a perpetual desire to eat. Attention was directed to the urine; and it was found that she was passing from 18 to 20 pints daily, of a specific gravity varying from 1036 to 1040. On the addition of yeast, it fermented briskly. Boiled, after the addition of solution of sulphate of copper, and solution of caustic potassa, it yielded a reddish-brown precipitate; boiled with solution of potassa alone, it acquired a dark brown or bistre tint. The case was clearly one of saccharine diabetes.

"Two days after admission, she was placed upon an animal diet, with non-

farinaceous vegetables, and one small biscuit three times a day. Cod-liver oil was also directed, and *a teaspoonful of yeast, three times daily, immediately before meals.*

"22d.—The quantity of urine now passed in 24 hours was 10 pints and the specific gravity 1022. The thirst and appetite were much diminished. The same treatment continued.

"27th.—The patient complained of total loss of appetite, and could not take her cod-liver oil. The tongue was extremely red and inclined to dryness, and there was pain on pressure in the epigastrium. The quantity and specific gravity of the urine were as at the last date. The cod-liver oil and animal diet were suspended, and she was placed upon farinaceous drinks with milk. A pill, composed of one grain of the blue mass and a quarter of a grain of opium, was directed four times a day, and the yeast was continued.

"30th—The patient felt much better, her tongue was moister and less red, and the gastric symptoms were much ameliorated. Not finding milk to agree with her, she had lived chiefly on oatmeal gruel, with a soft-boiled egg occasionally. The quantity of urine had now been reduced to 7 pints in twenty-four hours, and its specific gravity to 1020.

"31st.—The patient continues as yesterday, the urine having amounted in the last period of twenty-four hours, to only six pints; the specific gravity not examined."

Being under the impression that the primary disease in this case was seated in the stomach, and that the sugar was generated there, Dr. Wood appears to have given the yeast in order to favour the conversion of this sugar into acetic acid. He had in mind Dr. Gray's recent experiments with rennet. Commenting upon the case he observes:

"The patient had been two days in the hospital before she was placed under treatment, and during this period no change had taken place in the quantity or character of the urine. It will have been noticed that quickly after the commencement of treatment, a very great change took place in both these respects, the quantity of urine being reduced, in the course of four days, from twenty pints to ten daily, and the specific gravity from 1036 or 1040 to 1022. But the almost exclusive use of animal food may be supposed to have contributed to this result. In consequence, however, of the gastric inflammation, it was necessary to suspend this diet, and to allow the patient to use farinaceous food, the yeast being continued. So far from any increase of urine in consequence of this change of diet, its quantity was still further reduced, so that upon the last day upon which it was examined, it did not exceed six pints, while the specific gravity was as low as 1020, the quantity having thus been reduced from twenty pints to about double that of health, and the density from 1040 to that of normal urine. There can be no doubt whatever that the sugar has been very greatly diminished; and there is no cause apparent to which the result can be ascribed except the use of yeast.

At a subsequent meeting of the College (Jan. 5, 1853), Dr. W. stated that there had been since no further improvement in this case. The employment of the yeast had been persevered in, except for a short period during which rennet was substituted without any appreciable effect; but there has been rather a falling back than continued diminution of the symptoms. The patient is better, however, than

when first subjected to treatment. The quantity of urine is diminished one-half, and its specific gravity is considerably less.

ART. 78.—*Sequel to a Case of Saccharine Diabetes.** By C. FRICKE, M.D.

(*American Quarterly Journal of Medicine*, April, 1853.)

The amount of urine passed by this patient increased gradually, although still influenced to some degree by medicinal agents, and reached its greatest amount December 5. On that day, he passed eight hundred and ninety-six ounces, equivalent to fifty-six pints, or seven gallons. And the amount of sugar contained in this enormous quantity of fluid was estimated at four pounds ten ounces. He was at this time very weak and emaciated, but not confined to the hospital. During the fall, he suffered much from abscesses on the shoulder and backs of his hands; but after the invasion of cough, from which previously he had been exempt, their appearance ceased. The pus from these abscesses always contained sugar.

December 30th.—He entered the hospital, complaining of cough. A few slight râles were discoverable in the right lung, but nothing else. His urine had now diminished to two hundred and sixty ounces daily. During the next week, his cough became troublesome, and some rudeness of respiration was discoverable.

January 17th.—Bronchial respiration and bronchophony were well marked throughout the upper third of the right lung, and a few days afterwards the rusty expectoration of pneumonia made its appearance. At this time he lost his relish for farinaceous food, and confined himself principally to meat. At this date some blood was taken from him by cups, but a careful examination could detect no sugar in it, although this substance was still present in his expectoration. He died January 26th; the quantity of urine decreasing daily.

25th.—He passed but one hundred and thirty ounces, containing only four ounces of sugar.

The following table is made up of the averages of sixty-seven examinations:

Date.	Average number of analyses.	Quantity of urine in ounces.	Quantity of sugar passed in grains.	Quantity of sugar in food, in grains.	Medicine taken.	Stools.
From March 6 to April 4	5	570	14,790	25,500	Ergot, grs. iij; Strych. 7	3
From April 6 to May 4	9	448	12,123	25,500	None	2
From May 5 to May 17	7	545	17,447	25,500	Creosote gtt. ij, twice daily	3
From Aug. 15 to Dec. 5.	13	752	23,379	27,976	None	3
From Dec. 12 to Jan. 17	24	226	6394	11,080	Morphia, ¼	3
From Jan. 17 to Jan. 26	9	157	4191	10,212	None	1

* See vol. XVI, p. 330.

Autopsy, ten hours after death. Body very much emaciated. On opening the thorax, the two upper lobes of the right lung were found to be consolidated from tubercular infiltration, and a pneumonia which had passed into the second stage. On cutting into its substance, two or three recent cavities, filled with pus, varying in size from a pea to a small marble, were discovered. In other respects, these organs were healthy. The liver was of its natural size and appearance. The kidneys one fourth larger than usual, rather flabby, but not congested. All the other abdominal organs presented their natural appearance. The bladder contained about ℥vj of clear urine, but no sugar could be detected in it.

The blood from the hepatic vein, from the right and from the left side of the heart, was examined with a view of detecting sugar. In the first only was it at all perceptible.

ART. 79.—*Discharge of Hydatids in the Urine.* By (1) Dr. SIEVEKING, Assistant Physician to St. Mary's Hospital; and (2) Mr. SIMON, F.R.S., Surgeon to St. Thomas's Hospital.

(*Lancet*, Sept. 10 and 24, 1853.)

Two of these very rare and remarkable cases have been recorded during the past half-year.

1. DR. SIEVEKING'S CASE.—July 22d, 1853.—Daniel Larry B—, a brazier and tinker, æt. 21, and single, always enjoyed good health until about four weeks ago, when he became affected with gonorrhœa, for which he was treated, with a variety of medicines. A fortnight later he was seized with very severe pains in the right hypochondrium, extending to the spine, on the right side of which, about the heads of the eleventh intercostal space, there was considerable tenderness on pressure. The pain was increased by drawing breath; there was also great headache, the tongue was swollen and yellow, the pulse small and feeble, and the cutaneous surface was slightly jaundiced. The patient had lost his appetite, and stated that he had become much emaciated; his bowels were open, and there was still a slight trace of the gonorrhœa.

27th.—He called at my house to show me a mass of jelly-like, whitish substance, which, when spread out, closely resembled the wall of an acephalocyst; it was irregularly quadrilateral shape, about two inches long by one and a half broad. He had passed it the night before by the urethra, without any difficulty. He has felt much easier since employing the remedies, and his complexion is clearer. His tongue is still furred, but cleaner; pulse 93. He passed some urine in my presence, which was clear, amber-coloured, with a string of albuminoid matter floating in it; it contained no albumen. He complained of having for two days suffered pain in the right eye, and the day before an inguinal hernia had occurred on the right side. Examined by the microscope, the membrane exhibited the peculiar laminated appearances of hydatid cysts; a few torulæ were also seen upon it, and some granulated corpuscles like pus that is breaking up. The stringy substance in the urine consisted of what resembled pus corpuscles enveloped in, and held together by an amorphous viscid matter.

29th.—After he left me on the 27th inst. he passed a large quantity more of the hydatid membranes, and five times he evacuated from the urethra a milky, turbid, puriform fluid, in which no subsidence took place after being

allowed to stand. The sixth act of micturition brought away clear urine, and normal urine has continued to be passed since. It is, to-day, rather darker than usual, but clear, and contains neither albumen nor sedimentitious matter. He thinks that he passed nearly three half-pints of milky fluid. He has now no pain in the back, and but little in the right hypochondrium. The tongue is furred; the pulse 88. He feels generally stronger; in fact, he states himself to be almost as well as ever.

He has throughout experienced no pain in the course of the ureters, bladder, or urethra, and has had no difficulty in evacuating the masses. These are in five large, ragged, and irregularly quadrilateral pieces, four presenting a milky-white, smooth, external surface, and transparent, laminated lining; the fifth, though large, is more transparent than the others, and is evidently only a portion of detached lining membrane. They might be estimated as large enough to hold an orange if joined together. The milky fluid, after standing, remained a perfect emulsion of a greenish-white hue and acid reaction; it was almost solidified by the application of heat and nitric acid. The membranes, under the microscope, showed the laminated appearance and delicate parallel striæ of the hydatid cyst. The inner surface was covered with what closely resembled pus corpuscles, and the *débris* of animal matter of an irregular form. No echinococci or their remains, such as their fangs, could be discovered upon the membranes or in the fluid. The latter consisted of well-formed, granular corpuscles, of about $\frac{2}{5000}$ths of an inch, circular, well-defined, and not to be distinguished from pus corpuscles. Among these floated a few larger cells of about $\frac{4}{5000}$ths of an inch, of a definite, circular outline, and dotted with spherical molecules of oil.

2. Mr. Simon's case.—W. S—, æt. 44, an outdoor labourer in Folkestone harbour, began about two years ago to suffer symptoms of his present disease.

Previously he had considered himself quite healthy, having had no severe illness within his recollection. For the last four or five years, however, he seems to have had the habit of passing gritty urine (probably with crystals of lithic acid), and has had occasional stiffness in a knee and shoulder. Never to his knowledge has he discharged any worms from the intestinal canal, or had any signs of their presence there. His occupation has exposed him to various kinds of weather, but his habits appear to have been moderate and careful.

Two years ago he began, and has ever since continued, to experience occasional severe pain, shooting sharply across from one hypochondrium to the other. This "pain in the ribs," as he called it, would often be excited by strong exercise,—would be much felt, for instance, while he was working a heavy hammer, and it would recur in paroxysms several times during a day. Though the stabs of pain cut across from one side of his body to the other, affecting both of them, the left hypochondrium seems to have been regarded as their starting place.

Thus matters had gone on for about six months, when he was suddenly seized with acute sufferings, such as might have belonged to the passage of a calculus from the right kidney. There was the well-known sharp pain running through the right iliac region to the groin, testicle, and thigh, accompanied by spasm of the cremaster and extreme irritability of the bladder. At the end of six hours this attack terminated in his passing with some effort and probably for the first time (what may now be assumed to have been) a single hydatid vesicle, associated with some of his ordinary gravel.

Nine months afterwards he underwent a similar attack, the paroxysm lasting for two hours, and resulting as before in the discharge of a single

(presumed) hydatid, with gravel, and perhaps (as the urine was discoloured) some blood. The symptoms were again referable to the right kidney.

In both of these attacks he was out of medical observation; they can therefore be fully interpreted only by what occurred on a third occasion, when I was able to verify the nature of the discharge.

This attack began on July 21st, when he was again seized with extreme pain in the course of the right ureter, extending to the groin, testicle, and thigh, with frequent micturition and with contraction of the cremaster. For forty-eight hours these symptoms continued with the utmost severity; they then somewhat subsided, and in their milder form, with occasional exacerbations, continued for another week, at the end of which time a considerable discharge of hydatid vesicles took place,—probably as many as could be piled in a table-spoon, and varying from the size of a filbert downwards. In examining these, I found swarms of perfect echinococci in different stages of growth, together with innumerable hooklets of similar parasites dead and decomposed at some earlier period.

During the ten days for which this paroxysm lasted, the bladder continued exceedingly irritable, and there was likewise (especially during the earlier days) some general disturbance and feverishness; but the belly was not tender on pressure, nor was there any vomiting. No inflammatory products were admixed with the urine.

Four days after the large evacuation, a single hydatid vesicle escaped, with very little distress to the patient.

From that time to the present he has been well. The stabbing pain across the hypochondria (which had never left him for two years) has been very considerably lightened; he speaks of it as "not more than a tithe" of what it has been at any time since his first suffering.

Specimens of his urine, which I have examined during the last ten days, contain no trace of animalcules, nor any other morbid appearance than some crystals of oxalate of lime. With careful exploration of the abdomen, I have been unable to detect, either about the right kidney or elsewhere, any morbid induration or tumour.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 80.—*Case of Partial Canities occurring in One Night.* By R. FOWLER, M.D., of Loughborough.

(*Lancet*, June 18, 1853.)

An example of partial canities occurring suddenly was presented in an out-patient of this dispensary, who was admitted, on September 9th, 1852, suffering from the assemblage of symptoms which constitute chlorosis. She is 16 years of age, and states that her father died before she was born, of "decline," as also did her maternal grandmother. She herself is a lace-worker; she works at home, but does not sit very closely to her occupation; does not live very well, having animal food only about once a week. Her body is well proportioned, though her nails are slightly hooked; complexion fair; hair dark; eyes gray, pupils act well to the light; catamenia have not yet appeared; the mammary gland is undeveloped, but the nipples are turgescent, the cutaneous vessels on them being well marked. About a twelvemonth ago, on dressing one morning, she found that the whole

length of a large portion of what in the language of the toilet is called the "back hair," had become perfectly white, and it still remains so, occupying at its origin about two square inches around the occipital protuberance. She had not previously experienced any sudden grief or fright, nor had any previous illness, nor any cutaneous affection of the scalp; nor did she know that any of her relatives had been ever similarly afflicted. About a fortnight or three weeks after this occurrence, she one morning noticed that her whole body, to below the knees, was covered with patches as if she had been sun-burnt, which have been gradually getting darker up to the present time, especially on the back of the hands and neck, although those on the face have always continued of the same shade. On inspection, the whole body, as far as the tubercle of each tibia, presents large, well-marked, yellowish-brown patches of diffused ephelis, unattended by itching or any elevation or desquamation of the cuticle. The patches on the face are also slightly speckled over with the lenticular variety of freckles, which, being of a brighter yellow colour, are very distinguishable from the larger patches beneath.

October 28th.—The chlorotic symptoms having disappeared under the exhibition of sulphate of iron and aloes-with-myrrh pill, she was discharged, although the menstrual function was not established. Her hair and cutaneous affection were unaltered. She has not since been heard of.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

(A) CONCERNING INFLAMMATION.

ART. 81.—*On Erysipelas as an Acute Local Disease.* By J. HIGGINBOTTOM, Esq., F.R.S.

(*Assoc. Med. Journ.*, 1853.)

Mr. Higginbottom adduces the following reasons for supposing that erysipelas is a local affection, and relates a few cases in support of the efficacy of the treatment by nitrate of silver. His reasons are—

1. If erysipelas makes its appearance on the face without constitutional disturbance, the prompt application of the nitrate of silver alone, is sufficient to arrest and subdue the disease.

2. If fever and constitutional symptoms come on before the appearance of erysipelas, the simultaneous use of the nitrate of silver and constitutional remedies cut short the disease, and the patient is convalescent in three or four days. But, if constitutional remedies alone are used, and the nitrate of silver neglected, the disease will commonly run its usual course.

3. If the erysipelas and constitutional disturbance come on simultaneously, the prompt use of both the nitrate of silver and the constitutional remedies arrest and subdue the disease. If the nitrate of silver is omitted, the disease runs its usual course.

4. Whether the disease be idiopathic or traumatic, the erysipelas has the same characteristics. The inflammation spreads and produces the same dire effects; first, on the skin; second, on the cellular tissue; third, on the mucous and serous membranes. Both the idiopathic and the traumatic erysipelas are cured by the same means.

"Of course, the disease is often mild or aggravated, according to the healthy or unhealthy state of the patient, whether temperate or intemperate. I have always found consumers of alcoholic drinks most difficult to cure, in erysipelas as well as in all other diseases; and if they were banished altogether from medical practice, acute disease would be sooner cured, and chronic disease would be more manageable.

I do not believe in the occurrence of metastasis in erysipelas. That distant parts are affected in erysipelas is true; but this appears to me to be caused by the extension of the disease, and by the specific poison of the erysipelas carried into the system.

I would make an observation here which I have often insisted upon, viz., that in all cases a strong solution of nitrate of silver should be used, *one scruple of the nitrate to one drachm of distilled water.* I not only use this strong solution, but also rub the stick of the nitrate of silver on any particular part where I wish it to be well applied. I

have attributed the failure of this excellent remedy in the hands of some surgeons to the use of a weak solution; and this I have named, with other causes of failure, in my 'Additional Observations,' page 19. In an excellent paper, by Dr. W. S. Oke, published in the 'Association Medical Journal' for January 21st, 1853, p. 53, "On Erysipelas, &c." he mentions a surgeon who has used the nitrate of silver successfully, with a solution of one scruple of the nitrate of silver, six drops of the nitric acid, and *one ounce* of water. I am sure such a weak solution cannot be depended upon. I never knew a very free application of the strong solution, or the stick of nitrate of silver, "produce the destruction of the cutis vera," or be attended with any ill consequences.

Dr. Oke says, "the Royal South Hants Infirmary, in common with other hospitals, has been occasionally invaded by erysipelas with an average result; but since the nitrate of silver has been employed, the unfavorable terminations have been comparatively very few; and, I am persuaded, that were this excellent remedy more frequently adopted, erysipelatous inflammation might be generally controlled."

Art. 82.—*On the Local Treatment of Carbuncle and Boil.*

By R. Flint, Esq., Consulting Surgeon to the Stockport Infirmary.

(*Dublin Medical Press*, July 20, 1853.)

Considering these morbid actions as manifesting want of power in the vascular system of the parts affected, the author sought for an application that would, if possible, assist or increase it, and, at the same time, not interfere with the natural excretions from the skin. This he thought he saw in the common lead or litharge plaster, spread on the white leather of the shops. The former, if correctly prepared, will answer fully the object intended; and the latter ought to be well dressed, having no hard or harsh parts in what is selected for use. There is in lead plaster, besides its unirritating quality, a valuable property which seems to have been often overlooked or forgotten,—that of promoting or inducing perspiratory exhalation from the skin. Every surgeon must occasionally have noticed, that where the common lead plaster (containing no resin) has been allowed to remain on any part of the trunk or limbs for weeks, when it is removed there will be seen a considerable quantity of perspiratory fluid which has been pent up, showing no other consequences than a little soddening of the skin upon which it has been so long confined. For this reason, he always prefers using the plaster without any admixture of combination; and if fresh, it has every requisite adhesive property. To this peculiar effect on the cutaneous exhalants, he attributes much of its beneficial influence in the more acute boil or carbuncle. It must, however, be allowed, that in the extremely acute forms of this disease, the most soothing applications to the surface of the skin are indispensable, and that fomentations and poultices for twenty-four hours, or longer, may be quite necessary. As soon as the plaster can be borne, it ought to be applied without delay. It is likewise to be remembered, that there are idiosyncrasies where a plaster, entirely unirritating under ordinary

circumstances, cannot be endured from the cutaneous irritation and excitement which follow its use. This, of course, is to be regarded as an exception to a rule.

The mode of application is the following:—After spreading the plaster in the ordinary manner, it is to be cut in dimensions according to the size of the carbuncle or boil to be dressed, carefully observing that it is large enough to include from half an inch to two or three inches of the surface around the tumour. Where this is large and deep, as in a carbuncle from four to six or eight inches in diameter, the circumference to be embraced should be proportionately large, and the leather, in such a case, should be chosen soft and strong, in order to obtain an amount of adhesive mechanical support to the surrounding and subjacent parts, so as to enable them to originate and establish a new action. It must be well remembered, that it is not enough, in any of these dressings, to cut the plaster the exact size only of the tumour. It is expected that some of the surrounding surface should be taken in also.

In twenty-four hours after dressing, a favorable change in the appearance of the parts is generally discernable; and (what will be allowed to be a highly important result, in those cases where the local irritation is fast inducing a state of cerebro-spinal distress and lesion, likely soon to end in coma and death) it will often, in a less period of time, afford a mitigation of suffering, which comes upon the patient like a charm, and restores him the rest and sleep to which he had long been a stranger. If the tumour be prominent or pointing in any part, a crucial incision is to be cut in the plaster, and placed directly over it, that the discharge may have free egress; and should there be at first no suppuration, this mode of dressing quickly promotes it, and assists the living parts to detach and throw off, at the least possible loss, the sloughy cellular membrane. If the tumour is not disposed to slough or suppurate, the application decidedly hastens the resolution or absorption of the effused matter.

In a boil, the dressing is precisely the same as in a carbuncle, taking care that the plaster has sufficient hold of the tissues around, perhaps from half an inch to an inch. In a few hours the acute pain and suffering of the patient, which had unceasingly disturbed his rest and comfort, become greatly mitigated, and soon afterwards wholly removed; and the improvement in the condition of the parts is strikingly apparent on every renewal of the plaster. The little trouble and inconvenience of this method, both to patient and surgeon, strongly contrast with the inconvenience, wearisome labour, and attention required by the old plan; and whilst the latter necessarily confines the patient, even in minor cases, to the house, in bed, or on couch, the former will often be little or no restraint on his usual avocations.

It is requisite that the plaster be changed more or less frequently, according to the extent of discharge or slough; but the longer the interval, the more desirable, as the less the parts are disturbed the better. If there be much discharge or slough, soiling the cut edges of the plaster, it may be changed once a day; if there be little, every third or fourth day will be sufficient; but the linen pledgets and bandage adjusted over the plaster, and absorbing the discharge as it

exudes, may be replaced frequently. In general, no other dressing is required to the end of the treatment. The plaster must be reduced in its dimensions as the tumour lessens in size, whether it be by suppuration, slough, or absorption. In some instances, towards the close, simple or calamine cerate, or the strong solution of nitrate of silver (℥j to ʒj), may be desirable.

From what he has seen of this method of treatment in a number of patients during the last several years, and from the speedy relief or total removal of pain and distress in the worst cases, and in bad temperaments, the author looks upon it as of great value, if attentively carried out; and he states his persuasion that it will render recourse either to the knife, to caustic remedies, or any of the other more severe measures of our art, unnecessary.

(B) CONCERNING TUMOURS.

ART. 83.—*On the Nature of painful Tubercle.*
By F. H. HAMILTON, M.D., Surgeon to the Buffalo Hospital.

(*Buffalo Medical Journal*, May, 1853.)

Dr. Hamilton relates two cases of this rare and obscure disease for the purpose of showing that it is not neuroma, as is generally believed.

Case 1.—I. L. D—, æt. 26, from Fayette, Seneca county; in good health. Nine months since, he first discovered a small hard tumour on the back of the left shoulder, immediately under the skin. It was then, and has been ever since, extremely sensitive. Four months since, it was accidentally hit, and the pain was intense. It will not bear even the chafing of his clothes without pain. It never has been inflamed. It is now about the size of a large pea; hard, irregular, of a brownish colour, and moveable. I removed it by excision, cutting away the cellular texture freely about it. I could not discover any nerve or other vessel communicating with it, or passing through it. Its texture was firm and fibrous.

Case 2.—Hannah Duchett, æt. 25, healthy. About five years since, she began first to feel a "deep" pain, at a single point, on the fibular side of the calf of the right leg. The pain was then, and has always been since, paroxysmal, occurring at first at intervals of a month or so. The sensation was like electricity, shooting from the point as a focus in several directions up and down the leg, but not extending usually farther than four or five inches. Such was the pain, so peculiarly diagnostic of the "painful tubercle." All this preceded the existence of any tumour, or of any mark by which the spot could be designated, and it was not until a year ago that she first began to perceive a very small, hard tumour at the point of suffering. The tumour has now attained the size of a large pea; the skin is slightly elevated, but not discoloured. Upon the centre of the summit of the tumour is a small black spot, of the size of the point of a pin, which looks like the obstructed lacuna of one of the cutaneous follicles. The tumour is hard and slightly moveable. It is exquisitely sensitive, the gentlest brush producing a severe pain. The pains are still paroxysmal, but recur almost daily, and often many times during a single day. May 3, 1852: I excised the tumour with a considerable amount of cellular texture around it.

Examination of the Product.—The tumour lay imbedded upon the

under surface of the skin, in which it had formed a cup-like depression, but to which it had no attachments except a very loose cellular. The skin over it was reduced to less than half its usual thickness. The most careful dissection, aided by a glass, on all sides of the tumour, did not disclose the smallest filament of a nerve, or anything except the same loose cellular texture. It was covered with three investments, formed, as the author has usually found them, in non-malignant tumours occurring in cellular textures, only that the number is sometimes greater—viz., first a tunic formed of condensed cellular texture, the result of the gradual encroachment of the tumour upon this texture; second, its immediate and proper investment, which was more dense and pearly; third, loose flocculi, or delicate cellular structure uniting the two. The tumour was firm and elastic. When cut, it looked to the naked eye semi-cartilaginous, or firm gelatiniform. With the eye-glass small white spots were visible, but no fibres. Its colour was very white.

Dupuytren, in his oral lectures, first demonstrated that such tumours were not neuromata. The symptoms and pathology are explained by him in a manner so graphic that we need, the author thinks, never be in doubt; yet it will be seen, that very few have observed his distinctions; and it is for this reason that the author has thought it proper to give these cases so much in detail, as additional confirmation of the correctness of his opinions.

Art. 84.—*On the Treatment of Cancer.*
By M. Devay, Surgeon to the Hôtel Dieu, Lyons.

(*Gaz. Méd. de Lyons*, No. 52, 1852.)

M. Devay has long been engaged in investigating the therapeutical properties of conium in cancer, he being of opinion that Storck's experiments should be resumed with the aid of the improved chemical knowledge of the present period. He finds the best preparations to be an extract and balsam, containing 1 per cent. of conicine, made from the seeds of the plant, gathered when at maturity, of full weight, and of an ash-gray colour. As the result of his researches, he states: 1. That an ointment, applied externally, in chronic enlargements of scrofulous glands, possesses a resolvent power greater than that of any other substance. 2. In engorgements of the uterus, or inflammatory hypertrophy of the organ—so frequently complicating its prolapsus or deviation—this medicine, employed internally and externally, is of great service. 3. In cancerous affections it exerts remarkable calming effects, and in some cases even cures seem to have resulted from its employment, especially in the atrophied form of scirrhus. Its use is less satisfactory in soft and rapidly increasing tumours; but the progress of some of these have seemed to be retarded. In other cases, it has diminished the size of secondary tumours, rendering the primary ones more amenable to surgical operation. As a means of assuaging suffering, whether used topically or taken internally, it is invariably preferred by the patients to opium, and all other narcotics.

Art. 85.—*Case of Chloroma.* By A. King, M.D.

(*Edin. Monthly Journal*, April, 1853.)

A remarkable case of this peculiar form of disease has been observed by Dr. A. King. The tumour—which presented itself in a young girl, previously robust, healthy, and free from hereditary disease—appeared first in the temporal fossæ, and then caused the protrusion of both eyes; small tumours of various dimensions presented themselves on the crown of the head, and on the mastoid processes. The appearances post-mortem were as follow:—On withdrawing the scalp, the crown of the head was found nodulated all over with flattened swellings, of a yellowish-green colour; there were some seven or eight patches, of from two to three inches in their longest diameter, and from half an inch to two inches in their shortest. On dividing the temporal aponeurosis, a diffuse swelling of exactly similar appearance was found to girt the temporal fossæ on each side. No trace of temporal muscles could be detected with the naked eye, but their position was occupied from origin to insertion by the peculiar green substance. The contents of the orbits were converted into the same green substance, with the exception of the eye and its muscles and nerves. The bones were more or less affected. A careful search was made for similar tumours over all the bones of the body, but only two were found, placed symmetrically on the external lateral aspects of the inferior maxilla; they had precisely the appearance of those already described, and the same relation existed between the green mass and the substance of the bone. On the inside of the dura mater there were two flattened masses, placed symmetrically on each side of the falx, projecting inwards, and indenting the substance of the brain over the upper and back part of the middle lobes; one of these masses was half an inch in thickness, and felt firm under the knife. The cut surfaces had everywhere the same yellowish-green colour; the outer surface of the dura mater was quite healthy. On a careful inspection of the parts removed it was ascertained that the diseased masses presented the same characters in all situations, except in so far as variations were produced by intermixture with the surrounding fibrous, osseous, or muscular tissues. The prevalent colour was a uniform greenish-yellow, the masses were in general perfectly homogeneous, like size or coagulated albumen, and no bloodvessels or other traces of a complex organised structure could be discovered, either with the naked eye or with a lens. In some situations it was found that the periosteum was converted into the yellow-green substance, the bone underneath, however, remaining smooth and natural. When the tumours were thickest, spicula of bone were developed, and in all situations the connection between the spicula of bone and the diseased soft parts was most intimate; and it was only after several months maceration that they could be torn from each other. The microscopic examination of the green substance did not afford very satisfactory evidence of its nature. The histological characters agree pretty much with those given by Vogel. The substance of the tumours, when altogether free from admixture with surrounding structure, presented

a mass of irregular granules, some round, others elongated; these were mingled with imperfect fibres or fine filaments; in many situations there was a disposition of the granular mass to a larger fibrous arrangement. The larger fibres seem to communicate with each other, or to subdivide and reunite, but had none of the characters of blood-vessels, appear to be quite solid, and split up into smaller fibrillæ. From these fibres, probably elements of a fibrous tumour in a state of formation, there were to be distinguished in some parts of the tumour those of fully-formed areolar tissue. No microscopic appearance was observed capable of explaining the source of the colour. Dr. R. D. Thomson reports that he could detect no trace of bile, "the only source from which green colouring matter could emanate in the human system, so far as we know at present." Lebert and Vogel, as is well known, ascribe the colour of this class of tumours to some new proximate principle different from bile, to which the former assigns the name of *Xanthose*. Dr. King thinks it possible that the cyto-blastema consisted simply of extravasated blood, or of blood and lymph. During the progress of the case, remarkable changes in volume had been observed; thus, two very large exudations at one time covered the mastoid processes, but only one of them could be found after death.

(C) CONCERNING WOUNDS.

ART. 86.—*On the Arsenical Treatment of Snake-bite.* By BENJ. TRAVERS, JUN., F.R.S.

(*Assoc. Med. Journ.*, Sept. 16, 1853.)

This subject has always been one of especial interest to me, in consequence of the great probability that we possess in arsenic a remedy which, if administered boldly and in time, will rescue the sufferer from an imminent and painful death. The author believes no one has ever questioned the accuracy of the facts recorded of the comparatively certain operation of the Tanjore pill, and Mr. Ireland's cases, of which he enumerates five treated with unvarying success, are powerfully corroborative of Dr. Russell's statements. Mr. Ireland, on his arrival in the island of St. Lucie, having previously heard the facts concerning the efficacy of arsenic stated in Mr. Chevalier's lectures, proceeded at once to test the truth of the proposition, by administering one grain doses of the mineral (in the form of arsenite of potash, as it exists in Fowler's solution), every half hour till the patient began to revive. He treated five cases with perfect success in this manner. The men severally took six, seven, and eight doses of the following form, before the irritating operation of the arsenic began to show itself by vomiting and purging. What is very remarkable, is the immediate and complete recovery of these patients, without the arsenic having produced any trace of its poisonous agency, or any subsequent ill consequences. Mr. Ireland prescribed as follows:

℞ Liquor. arsenicalis, ʒij;
Tincturæ opii, gtt. x;
Aquæ menthæ pip., ℥iss.

to which was added half an ounce of lime-juice: the medicine being taken in a state of slight effervescence. The embrocations and clysters mentioned by him, cannot be regarded as having had much to do with the cure, but were no doubt useful in some degree. On one occasion only did Mr. Ireland amputate the finger on account of the extent of the laceration. In the remaining instances he contented himself with paring the edges of the wound and dressing it superficially.

It is well admitted by most physicians that arsenic will cure chorea, if given in proper doses and for a sufficient time. Mr. Martin, of Reigate, and Mr. Salter, of Poole, have adduced abundant evidence of the great powers of arsenic in the cure of this disorder. Now, having a due regard to the condition of the nervous system in these two instances of its disturbances from such different causes, the author thinks we must conclude that arsenic operates specifically and powerfully in that direction. Dr. Taylor tells us that it is not a corrosive poison, and although four or five grains have been found sufficient to destroy life, patients have recovered after taking sixty. Such a case is upon record; it was published by Dr. Roget. Mr. Travers thinks it may be shown that arsenic powerfully and specifically stimulates the semilunar ganglion and its tributaries presiding over the organic life of our bodies. Its "evacuant," operation is an incident of prime importance in cases of poison. It should always be given on these occasions until the patient vomits and purges abundantly.

(D) CONCERNING THE BLOOD-VESSELS.

ART. 87.—*A new way of Tying Vessels.* By M. MATTEI, M.D., Prof. of Midwifery at Bastia, Corsica.

(*Révue Méd-Chir.*, April, 1853.)

M. Mattei proposes a new kind of ligature, consisting of two loops, intercrossed, and with the ends in opposite directions. The end of the vessel is placed between these loops, and constricted by pulling at the ends; or if it is an entire and undetached trunk which has to be tied, one loop is first passed around the vessel in one direction, and then the other around it in a contrary direction, taking care to thread the ends in such a way around the silk forming the first loop, as to secure the necessary intercrossing. If the vessel is of large size, the ends of the loops are made to have an extra turn upon each other. After the vessel is tied, one end of each loop is cut away close to the vessel, and the other end is brought out of the wound, the two remaining ends being disposed as nearly as possible in opposite directions. In this position they are allowed to remain until the vessel is obliterated, and then they are removed by gentle traction at each of the protruding ends, each loop slipping away from the other with perfect readiness, and without in any way disturbing the parts. In some cases, also, M. Mattei does not clip away any part of the loops, but attaching a thread to their bends, and bringing these threads out of the wound along with the ends of the loops, he is able to bring away the loops by pulling at the threads attached to them.

The grand advantage of this process is, that instead of having to remain until the included portion has been slowly eaten through by absorption, the ligature may be removed as soon as the vessel is obstructed; and thus one grand impediment to the process of healing by the first intention is removed. Another advantage is that the doing away with the ulcerative process lessens the risk of secondary hæmorrhage.

M. Mattei has tested the applicability of his plan in amputations of the breast, leg, and arm. He removed the ligatures from the principal vessels on the fourth or fifth day, and from the smaller vessels in the course of the next day, and without any loss of blood; but he has not yet had an opportunity of experimenting upon the femoral or larger vessels.

ART. 88.—*Aneurism treated by Perchloride of Iron Injections.* By MM. NIEPCE, LALLEMAND, DUFOUR, and Mr. WM. ADAMS.

(*Archiv. Gén. de Méd.*, June, 1853; *Rév. Méd.-Chir.*, Aug., 1853.)

In France there is a disposition to regard this mode of treatment as a revolution in practice of equal importance to that of treating stone in the bladder by lithotrity. M. Pravaz, however, is not to have all the credit, for M. Leroy d'Etoilles writes to the Académie de Médecine in April last, and shows that he published several Memoirs in 1832, 1835, and 1844, the purport of which was, that aneurism might be successfully treated by the injection of coagulants. He employed alcohol in his experiments, and this agent answered very well, but he is disposed to regard it as inferior in efficacy to the solution of the perchloride of iron.

Three cases are related in the French Journals, two of which were brought before the Académie des Sciences. The fourth was brought before the Medical and Chirurgical Society of London.

1. M. NIEPCE'S CASE.—This case, which was one of popliteal aneurism, was brought before the Académie des Sciences on the 18th of April, ult. Five minutes after the injection the pulsation had ceased, and the tumour solidified, and on withdrawing the canula no blood followed. The next day, and the days following, acute inflammation set up in the sac and the surrounding tissue; and on the 11th day there was distinct fluctuation on its inner side. A small puncture in this place gave exit to about 10 grammes of purulent serosity, with immediate relief to the inflammatory symptoms. Twenty days after the operation, all that remained of the aneurism, was a solid tumour about the size of a nut, and the patient was virtually well.

2. M. LALLEMAND'S CASE.—This was a case of varicose aneurism, at the bend of the elbow. It was brought before the Académie des Sciences on the 9th of May. In this case the beatings ceased, and the tumour solidified immediately after the injection. Acute local inflammation followed, ending in the effusion of a small quantity of sero-purulent fluid, which had to be evacuated by puncture. Eventually a considerable portion of the tumour sloughed away, but there was no hæmorrhage; and the parts healed with rapidity, and the patient got thoroughly well.

3. M. DUFOUR'S CASE.—The patient in this case was a tolerably strong

and healthy man, with a large aneurism of the right carotid, extending from the chin to the clavicle, and causing great pain and difficulty of breathing. The skin over the tumour was greatly distended and congested, and upon the point of bursting in several places. The solution of perchloride was first injected on the 2nd of June, 1853, the sac having been first punctured by a needle. Blood followed the puncture, but this stayed immediately on making the injection. The operation gave rise to great local pains, but the throbbing and fluidity continued a week later; the inflammation in the sac continued, in spite of the cold applications used to repress it, and a dark, sanious fluid oozed from the opening through which the injection had been made. Under these circumstances two grammes of the solution were injected; violent pain and heat followed, as before, but on this occasion there was some evident coagulation in the sac. The inflammatory symptoms, however, progressed in spite of everything that could be done to repress them, and next day a gangrenous patch had formed on the superior and upper part of the tumour. This continued to extend, and three days afterwards the aneurism burst by a large rent, and the patient died instantly, a coagulum of the size of a hen's egg, and apparently the result of the second injection, being extruded at the time. M. Dufour is disposed to think that the operation might have been successful, notwithstanding the unfavourable state of the patient, if the solution had been a little more concentrated, and if it had been injected more liberally.

4. Mr. Wm. Adams' case.—In this case, which was that of an infant, aged three months, the posterior tibial artery was wounded in the operation of dividing the posterior tibial tendon for club-foot, and a pulsating tumour discovered ten days afterwards. Direct pressure by a graduated compress and bandage was applied, and the pulsation diminished, but a very small slough formed from the pressure not having been relieved for four days, and a copious arterial hæmorrhage took place. Pressure, a little above the aneurism, appeared to command the bleeding, and this was therefore tried; but it was discontinued on the second day in consequence of the extension of inflammatory swelling to this part of the leg. A second arterial jet followed the removal of pressure.

On the 12th of May, 1853, a small quantity (from 5 to 10 drops) of the concentrated solution of perchloride of iron (prepared by Mr. Taylor, of Vere-street) was injected into the aneurismal sac, which was about an inch in diameter. At the time of the injection, loosely clotted blood plugged the small cutaneous ulcer, and through the clot the extremity of a long and finely-pointed glass syringe, containing the styptic, was introduced, and carried to the bottom of the sac, as nearly as possible to the situation of the wounded vessel. The femoral artery was compressed before the injection and for five minutes afterwards, so as to insure the blood acted upon being as nearly as possible in a stagnant condition,—a most essential point. The first effect observed was, that the exposed surface of the clot became firmer, and that straw-coloured serum oozed from its substance. About 20 minims of serum oozed out in this way, affording conclusive physiological evidence of the firm coagulation of the blood, which was also indicated by a general feeling of hardness over the sac. A piece of lint and bandage were applied.

May 13th.—Ulcer contracted and filled with firm clots. The surrounding skin, which presented a tense, shining, swollen, and slightly reddened appearance previous to the operation, was now pale, and less tumefied. It seemed that a procees of shrinking and contraction had commenced, and that no inflammatory results need be apprehended. Progressive improvement took place; the ulcer healed in a week; shrinking and contraction advanced.

May 25th.—A deep puckered cicatrix, and a little deep-seated induration, alone indicated the seat of the aneurism. The treatment of the deformity was proceeded with; the tendo achillis was divided on the 1st of June, and the restoration of the foot was in a few weeks as complete as in other cases.

ART. 89.—*Aneurism treated by Compression.*. By (1) PROF. W. BOERK; (2) Mr. REID, of Canterbury; (3) Mr. DENNE, of Canterbury; (4) Dr. SARGINT, of Clonmel; (5) Dr. JACOBS, of Queen's County; and (6) Dr. CRAWFORD, of Montreal.

(1) *Schm. Jahrb.*, No. 9, p. 331, 1853; (2) *Assoc. Med. Journal*, July 1, 1853; (3) *Dublin Medical Press*, June 1, 1853; (4) *Montreal Monthly Journal*, Sept. 1853.)

These cases afford additional evidence of the value of this plan of treatment. The fourth case is especially interesting, for in this the operation was successful amidst difficulties under which the former operation could scarcely have been thought of.

1. PROF. W. BOECK'S CASE.—This case (which is copied in abstract from the Norsk Mag. band, 6. into Schmidt's Jahrbucher, No. 9, p. 331, 1853) was that of popliteal aneurism, in a weakly man, 46 years of age. Compression was made by Dr. Bellingham's instrument on the 15th of Dec. 1850, and borne without any difficulty. On the 25th pulsation had nearly ceased, when the patient was attacked with pneumonia. This was treated in the usual way, and for the time the compression was discontinued. The pulsation, however, continued to decrease, and on the evening of the 27th it had ceased entirely, and no pulse was to be felt in the tibial. On the 30th, a weak pulse was detected on the outside of the tumour, which seemed to belong to some extraneous vessel; but this ceased after the compression had been again used for a few days. The progress of cure extended over nineteen days, and during this time there was no diminution of temperature, or perceptible loss of vitality in the limb. The amendment, was, however, of short duration, the patient dying of phthisis six weeks afterwards. It was found after death that no collateral circulation had been established, and that the blood had found its way to its destination through a canal in the clot.

2. MR. REID'S CASE.—S. W., æt. 37, married, was admitted into the Kent and Canterbury Hospital, November 18th, 1851. She was of a spare habit, and of a nervous and anxious temperament. Two months before she was admitted, when correcting her son at dinner-time, she directed a blow with her hand at his head. At the same moment, the boy raised his hand with a knife in it, in order to protect himself; her arm came in contact with its point, and a deep wound, about an inch and a half above the wrist-joint, was made in her right forearm. Blood immediately issued in a jet, and spirted about the room; but by the aid of her neighbours the bleeding was stopped. About an hour and a half afterwards she showed the wound to a surgeon, who, finding there was no hæmorrhage, brought the edges of the wound together. The arm became painful and swollen at the seat of the injury, and about three days afterwards, the whole arm, from the fingers to the elbow, became very much swollen and tender. This condition lasted for a week, during the whole of which time the pain was very severe. Antiphlogistic measures were adopted, and the arm was poulticed; and at last the patient was bled from a vein in the affected arm, and experienced great relief. The general tumefaction subsided, leaving a circumscribed swelling, which was

presumed to be an abscess, and which it was proposed to puncture, but the patient objected. It was subsequently discovered to be an aneurism.

When she was admitted, there was a swelling immediately above the wrist, about as large as a goose's egg, without very distinctly marked limits. It pulsated strongly in all parts, the beating being perceptible even to the patient. A loud bruit was also communicated to the ear. The tumour appeared to extend under the superficial muscles of the arm. The cicatrix of the wound was situated on the inner side of the swelling, and for some distance around it, the surface presented a dull slate colour, the integument feeling much thinner here than elsewhere. The movements of the hand and fingers were crippled; and there was no sensation in the ring and middle fingers. A thick compress of lint was placed over the swelling; the fingers were bandaged, and a roller was firmly applied to the forearm, as far as the elbow. The pressure could not be borne longer than for four hours, and then it was slackened. At the end of four days, though the tumour seemed a little smaller, the pulsation remained as strong as before. The fingers were now more firmly bandaged by strips of adhesive plaister, two pieces of sheet lead folded in lint were fitted to and placed over the tumour, and a solid narrow cylindrical pad was placed as near as possible in the course of the ulnar artery, along the upper part of the forearm, and firm pressure with a bandage was applied over the whole. The pressure was borne for six hours, when it was necessary to relax it by cutting some of the turns of the bandage. When the bandage was removed, at the end of forty-eight hours after its application, the pulsation had ceased in the swelling. The bandage and compresses were reapplied, and at the end of three days were removed. The tumour was then found to have decreased; but upon close examination it was thought that there was a feeble pulsation, such as the recurrent circulation might produce. An additional pad was placed between the aneurism and the wrist, over the ulnar artery. No pulsation could be subsequently felt, and the swelling contracted. The compresses were gradually removed, and the bandage only was retained. When the swelling had diminished to the size of a small walnut, it remained stationary for some weeks; but in the last week in December, the fore-arm became painful and slightly swollen. By rest, cold lotions, and aperient medicines, this subsided, and the remains of the aneurismal sac became soft and fluctuating, so that it was expected that suppuration had occurred in it. The swelling, however, slowly decreased, and ultimately entirely disappeared, the only trace that remained of the injury, being a cicatrix with some induration in the surrounding parts. The hand continued in a crippled state when she was discharged.

Mr. Reid thought that much of the successful issue of the case was due to the pressure produced upon the ulnar artery by the cylindrical pad above the aneurism, and regarded the case as one confirming in some degree the treatment of aneurism by compression of the artery between the aneurism and the heart. Had this mode of treatment failed, it was intended to have employed pressure upon the brachial artery by a ring tourniquet.

The patient was again in the hospital in 1852, for dyspepsia and neuralgic pains in the face and head. Although the movements of the arm had improved, those in the hand remained in much the same state. A slight increase of power in the movements of the fingers, but more especially in the wrist, took place whilst she was in the hospital, and there seemed a prospect, when she left it, that in course of time the hand would again become useful.

3. Mr. Denne's case.—G. P., æt. 36, a tall, and rather stout healthy-looking man, a gate-keeper on the South Eastern Railway, was admitted into the Kent and Canterbury Hospital with a popliteal aneurism, in March, 1852.

About seven years previously, the right leg was removed below the knee in consequence of a severe injury about the foot, from a railway truck passing over it; he recovered well, and had since used a wooden leg. In October, 1851, he visited the Great Exhibition, when he was obliged to walk much and very fast, about four miles in an hour. About a week or ten days after his return home, he felt great pain in the under part of the knee, and considered it was from a sprain; but upon examination he found a swelling, of the size of his finger; since then the swelling had gradually increased. He first felt pulsation in the swelling about Christmas; but it has never been so painful as to oblige him to rest the limb.

A tolerably firm elastic swelling occupied the ham projecting posteriorly, extending over the inner side of the lower part of the femur, and encroaching upon the calf of the leg, so as very much to limit the power of flexing the leg. A very forcible and *expansive* pulsation was perceptible in the entire extent of the tumour, but more especially on the inner side. A loud bruit was detected by the stethoscope; and upon interrupting the circulation by pressure upon the femoral artery at the groin, the swelling diminished considerably. The patient complained of pain extending down the calf of the leg to the ankle. During the unavoidable delay that occurred, in obtaining the required apparatus from London, the tumour increased in its upper and inner portion; and the bruit, which had been more distinct on the inner side, became more audible in the centre of the posterior part. The pain which he had experienced upon admission diminished very much under the rest and quiet to which he was subjected. The apparatus used was that known as Dr. Carte's pelvic apparatus for compression of the artery at the groin, with the ring-tourniquet for effecting pressure upon the artery below.

The instruments were applied on April 18th, at twelve o'clock. The pulse was then 94, and rather weak. The pressure on the artery of the thigh was so fixed as to stop the pulsation completely. The pulse very soon rose to 108, and became fuller, it however fell to 90 by the evening, and varied during the subsequent treatment between 80 and 96. The pain from the pressure had become so severe by 2 p.m., that it was necessary to relax the tourniquet on the thigh and to apply the pressure upon the groin. It was found that the integument was discoloured where the wooden pad of the instrument had pressed; and shortly after, slight vesication formed on the surface of the bruised skin. After this, pads of lint were introduced between the integument and the compresses of the tourniquet with good effect. The man was cheerful and intelligent, and interested himself so much in the plan of treatment, that, during the latter part of it, he was intrusted with the adjustment of the pressure, and permitted to relax the screw of one instrument, and to readjust that of the other, whenever the pressure became too painful. He bore the pressure of both instruments for a period varying from four to six hours. Although, each time the compresses were screwed down, the pulsation was completely checked, yet, shortly afterwards, a feeble thrill, and sometimes a fair pulsation could be discerned in the swelling. This was more particularly the case when the compress on the groin only was in operation. In addition to the occasional pain from the instruments, the man experienced pain, and sometimes numbness, in the foot and ankle.

On the 19th he was thirsty and rather feverish, partly from a sleepless night and constipated bowels. He was relieved from the symptoms in the course of the day, by a free action of the bowels. During the night of the 19th he slept comfortably, at intervals, for three and four hours at a time; and for seven hours the pressure was maintained by the ring tourniquet.

Between four and five p.m., of the 21st, about *seventy-six hours* from the

commencement of the treatment, the patient suddenly felt a severe thrilling pain about the upper and inner sides of the knee-joint, which lasted nearly half an hour, and extended down the leg to the toes; a sensation of throbbing about the part was also experienced. Shortly after this pain had subsided, the screws were relaxed, and the swelling was found to be quite free from pulsation, which never returned. During the three days of treatment, the tumour was perceived to become more consolidated, slight pressure was continued four days longer, and then the apparatus was removed and a bandage applied.

He was made an out-patient on May 18th; a firm swelling the size of a fist still remaining in the ham. During the three months that he continued an out-patient, the tumour slowly diminished,

4. Dr. Sargint's case.—Michael Costello, æt. 30, a strong healthy looking man, was admitted into the Clonmel Poorhouse on the 3d of March last, and states that he was always in good health, though at times a hard drinker. He was an overseer on the Waterford and Limerick Railway. About October last was obliged to walk a good deal each day, and frequently to assist in lifting the cars which were employed carrying clay, and which required all the strength and exertion he could use. About this time he felt a great stiffness in the left leg about the knee, and a shooting pain down to the foot. He, however, continued his employment until Christmas, when he was obliged to give up work, as the swelling, which had been gradually getting larger in the popliteal space, became so painful and tense that he could not walk. The pain was of a throbbing character, and on applying the hand it was raised up at each impulse. The limb could not be straightened, and he felt a numbness in the leg and foot, together with sharp pain, as if pins and needles were stuck into them, He continued getting worse till his admission.

On examination, the limb was found much swollen, and the veins turgid. A large aneurism occupied the popliteal space; it was fully the size of the closed fist. On applying the hand, a strong impulse was communicated at each pulsation of the heart, and the bruit was very loud, and the thrill was quite perceptible to the touch.

On the second day after admission, a temporary clamp, "made by a strong steel hoop which nearly surrounded the leg, and to which a tourniquet was attached," was put on, and pressure made on the artery, which nearly controlled the pulsation. From this he felt almost immediate relief, and got the first good night's sleep which he had for some weeks. The next morning the position of the pressure was altered, and from time to time this was done. This day he felt a severe burning pain in the tumour; this pain, though becoming less each day, continued for eight or nine days. The swelling of the foot and leg began to decline, and also the pain in them. The pulsation at this time (the 9th day) was hardly perceptible, and the bruit very slight. On the 17th of March, Dr. Carte's compressor (which Dr. Scully, under whose care the man was, had in the meanwhile procured) was applied instead of the temporary one, and gave great comfort to the patient; on the 24th, all pulsation and bruit had ceased, even when the instrument was relaxed. However, it was retained on the limb with moderate pressure until the 4th of April. At this time the leg was quite straight, the tumour much decreased, and no pain of any description felt in the limb, and he could move it freely in every direction, and also flex the knee without any annoyance. He now declares himself as well as ever he had been in his life.

I have no doubt but that the instrument might have been removed sooner; but as it caused no annoyance to the patient, it was thought safer to keep it on so long, so as to make sure that there should be no recurrence of the

disease. We were very much aided by the patient himself, who, being a very intelligent man, was shown how to alter the position of the instrument when it caused pain in any one place. The anastomosing vessels are much enlarged round the joint, and there is not the slightest inconvenience felt after the pressure.

April 18th.—The patient was discharged this day from the house, as he was anxious to resume his employment. The tumour is not now more than a quarter of its original size, and is daily decreasing.

5. Dr. Jacob's case.—Peter Beale, æt. 22, from Ballyroan, Queen's County, formerly a private in the 5th Fusiliers, was admitted into the Infirmary June 14, 1852. He states that during a march of twenty-three miles over a mountain road in the Mauritius by night, he experienced a strain (his foot turning in a car track), which was followed in five or six days by a swelling in the right ham, about the size of a pigeon's egg, having a pulsating sensation. He applied to Surgeon Small of the 12th regiment, who admitted him to hospital on the following day. He was subsequently sent to Port Lewis; where he remained in hospital for nine months.

Pressure was applied about three inches below Poupart's ligament, for the space of about ten days, by means of a clamp with a small-sized pad, which he states did not remain on the proper place, in consequence of its being too small. A deep slough formed, the cicatrix of which is considerable, an inch and a half by one inch. The instrument was moved to within one inch of Poupart's ligament, where a slight slough formed, in each case in about forty-eight hours. The instrument was left on ten days at each place. Pulsation in the tumour did not diminish during this time, but the size did not increase. There was a good deal of œdema in the leg, which disappeared when the pressure was removed. He returned to England in April, 1851, and remained in hospital at Chatham for about five months. No treatment was adopted until August, when pressure was again applied for thirteen days, two compresses being used, one at the groin by means of an instrument, which he states resembled a truss, and another over the upper part of Hunter's canal, with a steel clamp and a screw, both being used at the same time. That over the middle of the thigh caused a deep slough, and that over the groin a superficial one in about three days. When the ulcers healed, he was discharged, 1st of September, 1851, the tumour having rather increased in size. Early in November he came to the infirmary, but declined to be admitted, the tumour in the ham having at that time attained considerable size.

June 14th.—Within the last three weeks it has increased very much, altogether preventing his walking; he complains of severe pain in the tumour and leg; it extends at present from about three or four inches above the knee on the posterior part to the upper part of the middle third of the leg; it measures round the upper part nineteen inches, lower part seventeen inches and a half, length of tumour six inches. The size can be slightly diminished by pressure on the artery in the thigh, but the tumour returns to its original size immediately on its being removed. By auscultation, a bruit de soufflet is audible, principally on the outerside over the head of the fibula, and on the inside behind the head of the tibia. The tumour extends at each side above and around the condyles of the femur. The knee-joint is bent, the leg being nearly a right angle to the thigh, and cannot be made straight.

17th.—Ordered to rest in bed, a bandage being applied from the foot to above the knee.

July 6th.—Has been in much the same condition as at last report; experiences some trifling pain in the tumour, more in the leg and foot. Compression was this day applied at one p.m. by means of a piece of sheet gutta percha

placed on the back of the thigh, and a compress, about four inches long by an inch and a half broad, longitudinally over the artery, at the lower part of Scarpa's space, the pressure being made by means of four or five India-rubber bands passing round the limb outside, the gutta percha attached to the compress by means of hooks placed at each side, several being inserted to afford an opportunity of increasing the amount of pressure by means of a greater number of bands. The limb was bandaged from the foot up to the point where the compress was applied, and placed on a pillow lying on the outside. In about a quarter of an hour after, the patient began to complain of pain in the whole limb, which increased in a great degree for about an hour, but afterwards became more moderate. The whole limb became very much congested, livid, and swollen. The saphena vein is of unusual size, which he states became so after pressure was used on a former occasion. Pulsation in tumour became much diminished after the first two hours, at which time the pain was less severe. Eight p.m., patient much easier, but still complains of pain in the limb, principally along the anterior part of the tibia. Very slight pulsation observable in the tumour. Temperature of limb continues natural.

7th.—Patient passed an easy night, but states that he was afraid to sleep, as he is subject to nightmare, and was afraid of disturbing the limb; took the draught at eleven p.m. yesterday, and felt much relieved from pain afterwards; the limb appears much less swollen than yesterday; temperature continues good; states that he could bear more pressure if necessary; an additional band was applied accordingly; is rather feverish; pulse 130.

8th.—Patient passed a very restless night, suffering a good deal of pain all over the limb, feeling very tense; the bandage appears tighter, and the toes more swelled; a slight amount of pulsation is still felt in the tumour; some vesications and superficial excoriations are observed under and around the pad, which was moved a little higher up, and two extra bands applied, the whole being seven in number; the bandage round the foot was removed; the foot was found congested, and a fresh one applied, from which patient stated he derived comfort.

9th.—Patient had a comfortable night; does not suffer any pain in the limb, which appears much the same; temperature natural; there appears to be less fever than yesterday; pulse 120; tongue furred; appetite bad.

10th.—Patient had a bad night; slept very little on account of the soreness in the limb, and as he states scalding; there appeared to be a good deal of discharge of serum from the vesications; the compress appears to have moved from its proper position at its upper end; pulse 100; complains of thirst. One p.m.: The bandages were moved at about ten a.m., and also the compress; the limb is found to be still a good deal swollen; pulsation has returned in tumour, which appears smaller, and, at the posterior part, feels solid; an audible thrill is found in every part of the tumour on applying the ear.

12th.—Patient passed a good night; no pain or uneasiness; there is less œdema of limb; tumour appears more solid and circumscribed.

14th.—Patient going on well; limb feels easy, and is less œdematous: when compared with a cast which was taken before pressure was applied, it is found to be more circumscribed, smaller, and shorter. Twelve noon: Patient much the same as at last report.

21st.—Patient had a pretty good night, was free from pain, but did not get much sleep; considerable œdema of limb, which appears the same as at last report; pulsation can be seen when pressure is made over the tumour; a third band was applied for three hours during the day, but there appeared to of be very slight diminution of pulsation during that time, with increased œdema of limb, notwithstanding continued handrubbing; complained of pressure very

much, but stated he could bear two bands very well; the bandage was reapplied, and two bands left on; there is now considerable œdema, without any apparent diminution of pulsation, with a good deal of uneasiness; the pressure was now removed, and handrubbing ordered to be continued for half an hour when the pad was removed; there was a manifest increase of pulsation with an audible bruit on applying the ear over the tumour, but the pulsation is not to the same amount as before the commencement of pressure.

23d.—Patient rested very well: there is less œdema and also less pulsation in tumour, which appears to be harder; pulse 92; not much thirst. Directed to keep up pressure by means of an eight pound weight applied on a pad over the groin, which commands the pulsation sufficiently. Eight p.m.: Patient seems tired from the exertion of holding the weight, and the press-artery which he used occasionally to relieve himself, but was able to keep them applied nearly all day; the tumour seems to have become more solid, and pulsation much diminished.

25th.—Patient rested well last night; pulsation appears less in tumour, which is more solid to the touch, principally towards the anterior part; a weight of about eight pounds is sufficient to cause all pulsation to stop; he applies it about ten or twelve times a day, and retains it for a quarter of an hour each time.

26th.—Patient continues to improve; pulsation decreasing gradually; rests well; appetite improving.

28th.—Patient has no pain; tumour appears smaller, and pulsation less, more easily controlled; solidity extending towards knee.

30th.—Tumour diminishing in size, and more solid to the touch; pulsation is easily controlled by a weight of seven pounds, which he continues to apply; can now retain it over the artery for about a quarter of an hour at a time, then rests for twenty minutes or half an hour, and then reapplies the weight.

31st.—Patient was attacked last night at about 10 p.m. with pain in right side, accompanied by urgent dyspnœa; pulse 120, full and hard; dulness and crepitus at lower part of lung. Was bled till faintness was produced, when the pain was relieved; had vomiting after the bleeding. He was ordered an $\frac{1}{8}$th grain of antimony, and three drops of laudanum every three hours.

August 1st.—Patient going on well; pneumonia is much improved; has no pain in the side; no cough; passed a pretty good night: has not been able to apply pressure the last two days; tumour remains the same.

2d.—Patient was seized yesterday with an attack of diarrhœa, disturbed through the latter part of the day, accompanied with abdominal pain, which was relieved by a turpentine fomentation and a mixture composed of tinct. opii, ℥ij., mist. cretæ, ℥vj; ℥j every third hour.

3d.—Patient much better to-day; diarrhœa nearly ceased; bowels open twice since one o'clock yesterday; pulsation nearly ceased in tumour, which feels quite solid.

4th.—Patient improving; diarrhœa much better; no pain either in the side or belly; there appears to be a slight increase of pulsation in the tumour. Directed to apply the pressure again as often as he can bear it.

7th.—Did not rest well last night; has not done so the last few nights; feels very weak, and looks badly; complains of being feverish; the limb feels hot, but collateral circulation seems fully established; several enlarged vessels can be distinctly felt and traced by their pulsation on the internal part of the knee.

10th.—The tumour is quite solid: there is a good deal of œdema; tumour feels hot; it is evident that decomposition of blood has taken place in the

tumour, which will suppurate and discharge itself through an opening in the ham; pulse 120. Poultice.

11th.—Patient had a good night; slept pretty well; limbs feel easier since the poultice was applied.

12th.—Patient did not rest so well last night: feels the limb more uneasy and painful; there is a blush of redness along the inner surface, with considerable œdema and fluctuation; an opening was made at the posterior inferior part of the tumour, when a quantity of decomposed blood having a fœtid smell escaped; another opening was then made where he complained of most pain; a quantity of dark-coloured discharge was evacuated, mixed with grumous blood; felt much easier after the evacuation of the matter, about twenty ounces in quantity; a tent was introduced into each opening. Quinine in combination with opium was given.

13th.—This morning an opening was made on the external side a little below the knee; about eight or nine ounces of sanguineous pus was evacuated, also a few ounces passed out through the opening in the ham; the tumour is smaller; tension quite relieved; appetite is improved since yesterday; diarrhœa stopped.

14th.—Patient feels much better; the limb is found to be quite flaccid; a free discharge has commenced from the opening in the ham; *a quantity of fibrine has come away, having a laminated appearance; the different layers can be separated from each other;* discharge continues of the same character; the opening towards the anterior part of the leg continues to discharge freely when pressure is made on the tumour.

17th.—Patient going on very well; discharge more purulent but diminished in quantity; limb much reduced in size.

19th.—Patient continues to improve; some œdema continues in the foot; discharge of a more healthy character, less profuse; a small portion of fibrine came away to-day; rests better at night, but still requires his anodyne.

20th.—Patient complains to-day of pain and soreness of left leg and thigh, which is slightly swelled, resembling phlegmasia dolens; states that he awoke in the night and felt the limb cold and painful; glands in groin enlarged and tender; the right limb continues to improve.

21st.—Patient did not rest well; complains of pain of the left thigh and leg; he appears much depressed, and the countenance contracted; right limb improving, discharging freely pus of a more healthy character. Carbonate of ammonia was given, and mercurial frictions ordered.

22d. Patient appears rather better to day; left limb is a good deal swelled, but there is less pain; complains of soreness more than pain: right limb much the same as yesterday.

23d.—Patient rather better; less swelling in limb, which is not so sore to the touch; feels much better; has a good appetite, and could sleep if not disturbed; at the dressing last night a portion of clotted blood was discharged mixed with pus; opening looks healthy.

25th.—Patient going on well; swelling diminishing in left limb; the opening in the ham continues to discharge healthy pus.

28th.—Patient continues to improve; swelling of left limb is much less; there is also less pain and soreness; appetite is much improved; the right limb is much diminished in size; opening in the ham closing; discharge less in quantity.

From this date he continued steadily to improve, and was discharged from hospital on the 6th of November, cured, the limb nearly straight, and able to walk well.

6. Dr. Crawford's Case.—The patient, an iron-founder, æt. 36, was

engaged in lining a furnace, and, whilst in a crouching position, had to hammer the bricks between his knees. The repeated smart blows and concussions appear to have injured the artery, for shortly afterwards a pulsating tumour showed itself, about five inches above the patella, on the inner side of the left thigh, in the situation of Hunter's canal. When he came under Dr. Crawford's notice (Dec. 1852) it had assumed a somewhat flattened form, extending ten inches above the patella, in front and on the inside of the thigh, and passing down behind the internal condyle of the femur into the popliteal space, filling the whole ham. The girth of the knee was three and a half inches larger than the sound limb in a corresponding position. All the usual diagnostic signs of external aneurism were present.

Pressure was made by means of a ring tourniquet, forged by the patient's brother, a blacksmith, in imitation of Dr. Carte's circular thigh compressor, and having an ingenious contrivance as a substitute for the ball and socket joints—viz., a straight bar playing on a pivot, like the beams of a steam engine, through which the long compressing screw worked in a female screw, whilst at each end of the bar there was another screw to elevate it, and keep it at the angle desired. This fulfilled every intention, excepting, of course, that of the elastic medium.

The progress of the case was most satisfactory. The limb retained its ordinary temperature, and there was no œdema: bruit de soufflet ceased in twenty-one days, and pulsation shortly after, this event being accompanied by that peculiar sharp burning pain so generally felt at this period.

In recording this case, it may be interesting to observe on the rarity of aneurism in Canada, this being the only case of external which in nineteen years had fallen under Dr. Crawford's notice in an extensive practice; during which time he had seen also only one case of internal aneurism, and that of the aorta.

Art. 90.—*Aneurism treated by the external application of Chloride of Zinc.* By M. Bonnet, of Lyons.

(*Medical Times and Gazette*, July 23, 1853.)

M. Bonnet announces the complete cure of a patient suffering from subclavian aneurism, seen by M. Lallemand upon the fourteenth day of the treatment of the disease, by successive applications of the paste of chloride of zinc. The chloride of zinc, penetrating by imbibition into the deeper parts of the tumour, produced complete coagulation of the blood, which was detached from the walls of the aneurismal cavity without any hæmorrhage. The patient quitted the hospital three months and a-half from the commencement of the treatment. He could at that time take a walk for half an hour at a time, and presented, as the only trace of his disease, a superficial ulceration, which was nearly healed. The clot, which came away with the eschar, was forwarded to M. Lallemand by M. Bonnet.

The patient, æt. 25, had received in the left supra-clavicular region a blow with a knife, which, dividing the whole brachial plexus, and touching either the subclavian artery or one of its branches, was followed by profuse hæmorrhage, and subsequently by the formation of an enormous aneurism. The rapid enlargement of the tumour, and the frequent discharge of blood from the wound, threatened the life

of the patient, and rendered immediate assistance necessary. The application of a ligature between the inner border of the scaleni muscles and the aorta was rejected both by M. Bonnet and by his colleagues, as too dangerous and too difficult. The galvano-puncture was also negatived, because it was impossible to suspend, even for a moment, the pulsations and the *bruit de souffle* in the aneurismal pouch. The injections of the perchloride of iron were not then known, (January 2); and, possibly, the enormous size of the aneurism, its proximity to the heart, and the impossibility of compressing the artery which conveyed the blood to it, would have counter-indicated its employment. In this difficult position, M. Bonnet determined upon cauterisation by the paste of chloride of zinc.

The first eschar was produced in the centre of the tumour. Every two or three days, Bonnet removed, with a bistoury, the superficial layers of the slough, and for five weeks he continued a series of applications of the paste, which penetrated daily both in depth and extent. Upon the fourteenth day, the pulsations and the *bruit de souffle* ceased; at the end of the second month, the eschar began to detach itself without any hæmorrhage. The clot came away with the eschar. Bonnet affirms, that modern authors are wrong in attributing this method of treatment to Ambrose Paré, Guattani, or Marcus Aurelius Severinus; in none of the original works is it mentioned. The ancients knew nothing of the chloride of zinc, which was introduced into practice by M. Canquoin.

Bonnet first thought of employing this escharotic in the treatment of aneurism, by observing for the last ten years its power in coagulating blood and arresting hæmorrhage. He found, 1837, that it got rid of varicose veins without the occurrence of the bleeding which frequently ensued after the application of potassa fusa. Both he and his colleagues —MM. Berrier, Bouchacourt, Desgranges, and Vallet—have often taken a firm coagulum from vessels exposed to its influence. He has seen it entirely remove hæmorrhoids, varicoceles, and erectile tumours, by penetrating into the vessels by imbibition, coagulating the blood, and rendering the whole tumour firm. That it arrests arterial as well as venous hæmorrhage, was shown by its action upon goitre, as stated by M. Philipeaux, in a memoir founded upon some of Bonnet's clinical lectures.

The eschar separates about eight days after the application of the paste; it can, therefore, be easily retained by successive applications for a month, or even longer.

MM. Bonnet and Gensoul have lately proved that the chloride of zinc may cure the disease known as aneurism by anastomosis. A tumour, occupying the summit of the head, an inch in thickness, and of rounded surface, about half a foot diameter, (15 centimetres,) consisted of an immense number of anastomosing arteries, pulsating with a loud *bruit de souffle*, and nourished by seven large trunks coming from the frontal, the temporal, and the occipital region, each about the size of the brachial artery. Injection was insufficient and impossible; pressure, continued for a year, failed, and the surgeons were talking of tying the two carotid arteries. The cauterisation by the paste of the chloride of zinc effected the separation of the tumour

without any hæmorrhage whatever, from each of the nutritious arteries. The result of the case, not yet complete, is to be communicated at a future meeting of the Society.

ART. 91.—*A Case of Osteo-Aneurism in the Os Calcis.* By W. PARKER, M.D., Professor of Surgery in the College of Physicians and Surgeons, New York.

(*New York Journal of Medicine*, May, 1853.)

The patient was a physician, Dr. William Werden, of Salisbury, U.S., and the particulars of the case are drawn up by himself.

CASE.—In the summer of 1842, while jumping for recreation, I struck my heel upon a round stick, about an inch in diameter; it gave me severe pain at the time, which, however, lasted but a few minutes, and I thought no more of it. Several days after, upon rising from my bed in the morning, I experienced a sharp pain darting through my heel, which quickly passed off, but recurred again on the following morning in the same manner. This transient pain continued to return every morning on assuming the erect position, until the summer of 1847, without the occurrence of any other symptom, such as swelling or tenderness, to indicate the nature or seat of the difficulty. This pain invariably returned on rising to my feet, after resting some time in the horizontal position, but never continued to exceed one or two minutes. During this period, my heel gave me no uneasiness, my general health was good, with the exception of some dyspeptic symptoms for two or three years after the injury, which I attributed to sedentary habits, being then a student, and which passed off after engaging in practice.

In the summer of 1847 I began, for the first time, to experience a tenderness about the heel whenever it came in contact with solid substances with more than ordinary force, as in stamping or making a mis-step. This tenderness gradually increased until I began to suffer some pain in walking at my usual pace, unless I was careful to slide my foot along without raising it but slightly from the ground. There was no appreciable swelling until December of that year, when upon drawing on my boot one morning I suffered so much pain that I was obliged to withdraw it immediately. During the day, the heel swelled considerably, and being hot and painful at night, I scarified it deeply, and held it in warm water to favour the bleeding. On the following day, I was disappointed at finding my foot still worse, and was obliged to use a crutch in walking. Leeches and poultices were applied, and subsequently iodine and other medicinal applications were employed, but without even palliating the symptoms. Nothing but cold water and snow gave me even temporary relief; these were very grateful, and I resorted to them often, as the relief they afforded enabled me to attend to my business, though I suffered much pain night and day. I continued to grow gradually worse, until some time in February, 1848, when I determined to consult Dr. Parker. At this time there seemed to be thickening of all the tissues about the os calcis, with a deep seated, constant pain, as if the fibrous tissue was put upon the stretch; occasionally the pain was lancinating.

Dr. Parker advised an incision down to the bone, which he accordingly made, dividing the periosteum of the os calcis about an inch and a half on its inferior surface; the wound bled freely, and gave a little relief to the severity of the pain, but of short duration. I kept the wound discharging four or five weeks, but finding no material benefit, allowed it to heal. Soon after this

I applied moxas, by the advice of Dr. Ticknor, U. S. N., but with no benefit. The pain continued to increase in severity, being worse at night than during the day. I resorted to large doses of morphine to obtain sleep, and often two grains at a dose would produce only a short nap, from which I would be awakened by the most excruciating lancinating pains in the heel. I finally began the use of quinine in the summer of 1848, as I was beginning to emaciate and lose my appetite, taking eight grains per day, with cold applications to the affected part. Under this treatment my appetite and general health improved, and also the local difficulty; the pain was much less severe, and in a short time I threw aside my crutch, still continuing my practice, and got around very comfortably with a cane. This improvement lasted until December, 1848, when I had an attack of acute bronchitis, for which I was bled and took antimony, and of course omitted the quinine. I was confined to my bed about ten days, and in this time the pain in my heel became worse; on getting up I discovered, for the first time, a tumour on the outer aspect of the heel, just below the external malleolus, which had a spongy, elastic, and pulsating feel, and was painful on pressure; the veins were much enlarged about the heel. I again resorted to the quinine, from which I had derived so much benefit, but it now gave me no relief.

I grew worse so rapidly, that I again visited New-York with the intention of submitting to amputation, if this course was deemed advisable. I had come to the conclusion that I could not much longer survive such indescribable agony (I will not call it by so soft a name as pain). Dr. Parker advised immediate amputation, to which I cheerfully assented. He performed the operation on the 24th January, 1849, after administering a mixture of chloroform and ether. I resumed the practice of my profession about three months after the operation.

Art. 92.—*Cases of Lymphorrhagia.* By M. Demarquay.

(*Assoc. Med. Journal*, Feb. 18, 1853.)

In the Mémoires de la Société de Chirurgie de Paris, tom. iii, fas. 2, M. Demarquay has published two of these very uncommon cases.

Case 1.—M. X., æt. 17, on the 9th of March, 1852, while playing with some relatives, accidentally found that his shirt and trousers were wet. On examination, he found that the fluid escaped from a part of the thigh; it was at first colourless, but soon became milky. A medical man was called, who arrested the flow by applying a compress dipped in cold water, with a slightly tightened bandage. The next day, M. Demarquay found, at the lower and inner part of the left thigh, numerous small and depressible elevations, which he at first took for hypertrophy of the follicles. The linen which had been worn on the previous day had become stiff, as if it had been dipped in an albuminous fluid. It was evident that much lymph had escaped, but the exact point of its exit could not be determined.

Some days afterwards, M. Demarquay had an opportunity of seeing some lymph escape from the lower and inner part of the right thigh of M. X. It was at first colourless, and of a slightly opaque tint, passing to yellowish white on accumulation in a glass vessel. On examining with a lens, M. Demarquay ascertained that it escaped from a very limited spot; it was thrown out with some force, for it slightly raised the epidermis; indeed, it flowed in the same way as blood from a small arterial twig at the bottom of a wound. Eight *grammes* (a little more than two drachms) were collected in a wine-glass; in a

few minutes the fluid was entirely coagulated; it adhered to the vessel, and presented a blueish-white appearance, inclining to yellow.

Some days afterwards, MM. Denonvilliers, Ricord, and Flourens, examined the case with M. Demarquay. Independently of a series of granular elevations at the inner part of the right thigh, at the union of the lower with the middle third, there was a projection three or four *centimetres* (one inch and one fifth to one inch and a half) in extent, reaching, in a slightly curved form, from the front to the inner part of the thigh. It yielded to pressure like a varicose vein; upon and around it were small granular elevations. The projection increased on motion, and diminished during rest; it was evidently a varicose dilatation of a lymphatic vessel.

From this time till September M. X. remained free from the lymphorrhagia. At the latter period, when in Montpelier, he was again attacked; the fluid was then examined by M. Bouisson and other physicians. A flow of lymph occurred for a short time on October 31st; and on November 1st it returned, and continued during nine hours, in spite of pressure by means of a handkerchief, which had hitherto been found sufficient to arrest it. M. Demarquay obtained several ounces of fluid, some of which was furnished to M. Mialhe, for chemical examination. The fluid coagulated, like that already described; but a clot was soon formed in the centre, appearing as if composed of a series of reddish filaments in abundant serum. The varix had increased in size, and the granular elevations observed in March had become transparent and vesicular. On pricking one of them lymph escaped. The right thigh was at this point more than two *centimètres* (four fifths of an inch) larger than the left.

Pressure above and below the point whence the lymph escaped gave rise to a jet as from a vein of moderate size. When pressure was made below the dilatation the flow was not arrested.

M. Demarquay observes, that there was here not only dilatation of a lymphatic vessel, but also of the superficial network at two points of the thigh; viz.: anteriorly and interiorly at the junction of the lower with the middle third, and on the anterior part of the middle third. The escape of lymph during nine hours did not produce inconvenience; and up to the date of the report the disease had continued, and the flow of lymph had gradually increased.

Case 2.—This case was observed by Dr. Fitzer. A young lady, æt. 16, who had not menstruated, and had had crural hernia from the age of eight years. In 1847, she found that she had on her abdomen a number of small granular elevations; she was examined by Dr. Fitzer, who found a brownish stripe, three finger-breadths in width, commencing an inch below the umbilicus, to the left of the linea alba. It extended to the left and upwards, passing between the false ribs and the ilium, and ended at the dorsal vertebræ, becoming smaller and more transparent at this part. The middle part of this streak was prominent, and was formed of about eighteen papillary enlargements; some of these resembled the mamillary papillæ in men, others those in women; they were not tender to the touch, and disappeared on pressure. In July, the patient felt some pain in the situation of the streak; and on the 31st of that month, after returning from a walk, she found that there was escaping a milky coagulable fluid. She estimated the quantity which escaped at a quarter of a pint. Dr. Fitzer found the appearance of the parts the same as before. The fluid continued to escape during three days. It was milky, of a saline taste, alkaline, and escaped from two of the largest of the elevations which have been described. When one orifice was compressed, more lymph flowed from the other. Dr. Fitzer cut one of the elevations with curved scissors; he was able to pass a probe for an inch right and left; a quantity of lymph escaped

from this incision. Pressure, and the application of alum were insufficient to restrain the flow of lymph; Dr. Fitzer therefore applied nitrate of silver. It was important to arrest the disease, as the girl was losing strength, and the pulse was becoming weak. The lymphorrhagia ceased, but the granular projections remained; new ones were even formed, of the size of a lentil or millet-seed, while the skin over the remaining part of the streak had become pale, like that of the rest of the abdomen.

Microscopical and chemical analysis of the fluid, made by M. Schlossberger, left no doubt that it was lymph.

M. Demarquay has not been able, after diligent search, to find any records of cases of lymphorrhagia from spontaneous rupture of the vessels; cases of lymphorrhagia from wounds have been recorded by Nuck, Van Swieten, and Assalini.

Dilatation of the lymphatic vessels has been observed by Baillie, Mascagni, Amussat, Breschet, Sir A. Cooper, Bichat, Sömmering, Morgagni, Beau, Ricord; also, by Bidloo, Meckel, Rokitansky, Albers, Andral, Otto, and Hasse.* But the facts have not as yet been sufficient to enable pathologists to determine the causes, forms, varieties, diagnosis, prognosis, or treatment of the disease. As far as M. Demarquay knows, M. Beau is the only surgeon who has attended to the treatment. In cases of dilatation of the lymphatics of the prepuce, he introduces a small seton into the dilated vessel, and removes it at the end of three or four hours. Obliteration is thus produced.

(E) CONCERNING FRACTURES AND DISLOCATIONS.

ART. 93.—*A new form of Splint for Fractured Thigh.* By THOMAS DARBY, M.D., of Bray.

(*Dublin Medical Press*, May 11, 1853.)

In a recent meeting of the Surgical Society of Ireland, Dr. Darby described a splint which he had used with decided advantage on three occasions. It consists of a plane, in the form of a tray, capable of receiving the trunk of the body, perforated with a commode-hole for the buttocks, and furnished with two prolongations for the legs. The ends of these prolongations have foot-pieces, with an adjusting apparatus for the purpose of extension. Counter-extension is made either by a padded strap, or by a fixed upright pin corresponding to the fork. *The pelvis* and *both* the inferior limbs are fixed in this apparatus. Dr. Darby mentions three cases in which this contrivance answered perfectly; one of them, after two or three different kinds of inclined plane and straight splint had been tried without *any* benefit. One great advantage is, that the apparatus may be got up at half an hour's notice by any carpenter.

ART. 94.—*Treatment of Dislocation complicated with Fracture.* By (1) M. RICHET; and (2) M. MALGAIGNE.

(*Medico-Chir. Rev.*, Oct. 1853; and *Rév. Méd. Chir.*, Feb. 1853.)

1. M. Richet relates, in great detail, the case of a man, æt. 68, in

* Hasse's Pathological Anatomy, 'Sydenham Society's Translation,' p. 9.

whom a dislocation of the upper end of the humerus was complicated with fracture of the anatomical neck of the bone. Four days after the occurrence of the accident, he was placed under the influence of chloroform, and the reduction of the dislocation was easily effected by pressing backwards the head of the bone, without any traction being resorted to. The fracture was afterwards adjusted and consolidated; and when the patient was seen a year after, he had recovered the complete use of his limb.

M. Richet reviews the opinions of the classic writers, who agree in pronouncing the impossibility of reducing a dislocation of the humerus or femur, until after the fracture complicating it has become united. He shows the great power chloroform confers upon us in these cases, by the complete relaxation of the muscular resistance it produces, and the care with which the head of the bone may, by due manipulation, be forced back into its socket. He thinks the passive obstruction offered by the fibrous tissues of the parts has been exaggerated and ill-understood. In numerous autopsies he has made after recent dislocations, produced accidentally or experimentally, he has always found the aperture in the capsule broad and irregular, and in no condition to offer an obstacle to reduction. He does not deny that such obstacles may occasionally be offered by the fibrous structures, independently of the aperture of the capsule; but he maintains, from clinical and experimental observations, that such obstacles are much more easily overcome by pressing the head backwards than by the usual practice of traction of the limb, which, indeed, only aggravates them. By the aid of chloroform, he believes a dislocation of the humerus into the axilla may thus always be reduced by pressing the head directly backwards. In several experiments that he has made, in which the head of the femur has been dislocated, and the bone then sawn through just below it, so as to simulate dislocation complicated by fracture; the reduction has also been easily effected by direct pressure.

2. In operating on these cases, M. Malgaigne recommends that chloroform should be used; that the fractured limb should be held by assistants; and that it should even be temporarily put up in an apparatus before the reduction of the dislocation is attempted. Gentle motion of the joint should be practised at an early period.

ART. 95.—*Of the Philosophy of certain Dislocations of the Hip and Shoulder, and of their Reduction.* By M. GUNN, M.D., Professor of Surgery in the University of Michegan.

(*Peninsular Journal of Medicine* (U.S.), Sept. 1853.)

Dr. Gunn does not believe that the muscles are the agents which oppose reduction in these cases, and, consequently, he does not believe in the treatment recommended, namely, slow and uniform extension, for the purpose of tiring out the muscles, with occasional bleeding, antimonialising, and hot bathing. He proceeds—

This disbelief I have repeatedly justified by experiments upon the dead subject, and the members of the medical class of 1851-52 in the University will remember those conducted before them. A subject

was placed upon the table, the lower border of the gluteus maximus was raised, and a scalpel carried through the subjacent muscles, and an opening made in the posterior and superior portion of the capsular ligament. The round ligament was then divided, and the head of the femur luxated upon the dorsum of the ilium. The usual indications of this dislocation were present. The subject was placed in the proper position, a counter-extending band applied to the perinæum and fixed; the strength of two men exerted now upon the extending band, while endeavour was made to raise the head of the bone clear of the acetabulum with a jack towel, was insufficient to reduce the luxation. Reid's method of manipulation readily replaced the bone. This experiment was repeated many times, and uniformly with the same result. As *muscular action* could not have opposed our efforts and prevented success in this case, the question naturally presents itself, what structure stood between effort and success? I answer, *the untorn portion of the capsular ligament.* In support of this view, let us consider for a moment the position of the limb at the instant of escape of the head from the socket during the process of dislocation. To do this we must hear in mind that force applied to the knee or foot while the limb is in a state of abduction, constitutes the most frequent cause of this dislocation. Force thus applied adducts the limb still more powerfully before dislocation takes place, and at the moment of the escape of the head of the bone from the socket the limb is in a direction which crosses the thigh of the opposite side. Immediately that the head of the bone has cleared the edge of the acetabulum it settles into its position upon the dorsum of the ilium, and the limb assumes the position and direction indicative of the accident. During the dislodgement of the bone, the superior and posterior portion of the capsular ligament is ruptured, through which the head protrudes; while from the position of the limb at the instant of protrusion, the anterior and inferior portion is very much relaxed, thus allowing the head to ride easily over the acetabulum. As soon as the head settles into its position upon the dorsum of the ilium, the direction of the limb is changed, and the untorn portion of the ligament becomes more tense, and for this reason the head of the bone cannot be readily returned to its place, till the limb is again placed in a position to relax it. Dr. Reid's method does this most effectually, and I conceive that any other plan which does not accomplish this, as for instance extension and counter-extension by the pully, or Jarvis' apparatus, in the usual direction, succeeds only by lacerating much more extensively, if not by actually tearing the ligament completely asunder, before the head of the bone will ride over the edge of the cavity.

The principle, then, I would seek to establish is this—*that in luxations of the hip and shoulder the untorn portion of the capsular ligament, by binding down the head of the dislocated bone, prevents its ready return over the edge of the cavity to its place in the socket; and that this return can be easily effected by putting the limb in such a position as will effectually approximate the two points of attachment of that portion of the ligament which remains untorn.*

(F) CONCERNING ANÆSTHETICS.

ART. 96.—*On the Anti-hæmorrhagic Effect of Chloroform during Operations.* By M. CHASSAIGNAC, Surgeon to the Hôpital St. Antoine.

Le Moniteur des Hopitaux, March 3, 1853; and *Dublin Quar. Jour. of Med.*, May 1853.

Surgeons who have performed a great number of operations with the aid of chloroform, must have observed the small amount of blood lost during severe operations by some subjects under the influence of this anæsthetic; for my part I have long remarked it. Without attaching importance in other respects to this peculiarity, I could not avoid comparing the trifling nature of these losses with the large quantity of blood generally poured out in capital operations in which chloroform is not employed.

Reflecting on the mode in which such a result might be produced, it soon occurred to me, that an individual in whom the physical and moral agitation caused by an operation raises the pulse to 120, must lose more blood from an opened artery than one in whom the pulse does not exceed 60 beats in a minute, and I thought that we might find in this fact something extremely advantageous, and having a direct practical application in reference to hæmorrhages occurring during operations. Still, this was so far but a surmise, resting partly, it is true, on impressions sufficiently vague, but also supported by this physiologically incontestable reasoning, viz., that a wounded person whose pulse beats 120 in the minute, must lose, in a given time, all other things being equal, more blood than one in whom it does not exceed 60.

But to draw conclusions, and, above all, conclusions capable of practical application, something more is necessary than surmises and reasoning, however plausible they may be. I therefore resolved to submit to special observation, in this respect, a certain number of patients operated on in the Hospital Saint Antoine, and I am now desirous of drawing the attention of surgeons to the results thus obtained.

The observation of 11 cases, viz., 3 of amputation of the thigh, 1 of amputation of the leg, 4 of removal of the breast, 1 of total resection of the first metatarsal and first cuneiform bones, 1 of resection of the humerus, and 1 of resection of the inferior maxillary bone,—has furnished me with the opportunity of establishing, that, whether during the period of collapse, or that of anæsthetic tolerance, the losses of blood which usually attend such cases were vastly lessened; and that, especially in two subjects, one a female, from whom the breast was removed, and the other a man on whom amputation of the thigh was performed, it might almost have been said that the operations took place without hæmorrhage. In the latter case, it is true, the compression of the femoral artery was maintained with great precision; still it was evident that the chloroform contributed to the arrest of the blood, for when I desired that the compression should be suspended, the entire of the wounded surface, with the exception of the principal

artery, which furnished a very moderate jet, gave so trifling a flow of blood, that we were obliged to wait for the cessation of the anæsthetic state to be able to apply ligatures to the secondary arteries. In the female, whose right breast was removed on account of a gland-like tumour, a teaspoonful, literally, of blood was not lost during the operation. In this case I committed the mistake of not awaiting the restoration of consciousness before dressing the wound, and—a point well worth attending to—hæmorrhage supervened, which was not discovered until some time after the application of the dressing, some hours, in fact, after the patient had been replaced in bed.

It is not only with respect to arterial hæmorrhage that chloroform may be considered as diminishing the loss of blood; it has a similar effect on venous hæmorrhage. It is known, in fact, that the badly-restrained efforts of a suffering patient predispose him in a peculiar manner to the latter variety of loss of blood; for he is under the influence of two causes which play an important part in this kind of hæmorrhage: first, imperfect respiration, and next, energetic muscular contractions. These two causes are removed by chloroform, and are replaced, through the effects of this agent, by a state of collapse or anæsthetic tolerance.

In order to give a rational account of the forces in virtue of which the phenomenon we are considering takes place, it will suffice to compare briefly the condition of a patient operated on in the ordinary state, with that of an individual who has reached the period of tolerance. In the former, the dread of the operation about to take place accelerates the number of the pulsations, increases the impulse of the heart, and retards the free return of the venous blood, not only in consequence of the disturbance of the respiration, but also of the efforts made by the patient while restrained by the assistants. Thus, increase of the number of the pulsations, augmentation of their intensity, and arrest of the venous blood, are the circulatory conditions of the patient submitted to operation without the employment of anæsthetics. What do we observe when the latter have been administered? Precisely the contrary: diminution of the frequency of the throbbing of the pulse, weakening of its intensity, and a normal state of the respiration and of the venous circulation. Comparing such opposite conditions, it is not difficult to understand the difference of the result observed in reference to the hæmorrhagic tendency.

Let us now consider what practical conclusions may be drawn from what has just been laid down. Under this head, and as the result of my observations, I may observe:

1. That the sedative action of the chloroform, during what has been styled the period of tolerance, diminishes in those who are operated on: *a*, the number of the pulsations; *b*, the strength of the impulse of the heart; *c*, the arrest of the blood which is a cause of venous hæmorrhages.

2. That the diminution of hæmorrhage, during the period of tolerance, may be a real advantage in the case of operations involving the possible opening of a great number of vessels.

3. That if it is sometimes useful, as has been recommended by some surgeons, not to apply the dressing until a certain time had

elapsed after an operation, this procedure may be said to be obligatory after the employment of chloroform, the chances of an ulterior hæmorhage being greater in proportion as less blood has been lost during the operation.

Art. 97.—*On the Mode in which Chloroform causes Death.* By R. E. Bickersteth, Esq., of Liverpool.

(*Edinburgh Monthly Journal*, Sept. 1853.)

From a number of experiments on the lower animals, confirmed by observations upon the manner in which chloroform acts upon man, Mr. Bickersteth arrives at the following conclusions:

1st. That in death from the inhalation of chloroform, the respiratory movements cease before the cardiac.

2d. That the heart continues its action, uninfluenced by the chloroform, for a period longer or shorter after the cessation of respiration, and that its then failing may be considered as a natural consequence of the respiration having ceased, and as independent of the influence of chloroform.

3d. That if, after the respiration has ceased, and while the heart is still in action, chloroform continues to be absorbed into the system, its movements may become impaired or cease—the chloroform in such case acting directly upon the heart.

4th. That if artificial respiration be resorted to before the cardiac contractions are seriously affected, and be properly maintained for a sufficient period, the respiratory function may be re-established.

The caution to be observed in administering chloroform, according to Mr. Bickersteth, is the same as that already inculcated by Mr. Clendon, viz., to watch the *respiration*, and not the pulse, and to cease the moment this begins to be disturbed. In cases of danger, the principal remedy is artificial respiration, and apropos of this topic are the following very excellent remarks:

"I would here direct attention to the expediency of drawing forward the tongue, in all cases when it is found necessary to resort to artificial respiration. When the patient is lying on the back, so soon as the breathing ceases and the jaw drops, the tongue is particularly liable to fall backwards and close the orifice of the glottis. Artificial respiration, under such circumstances, is worse than useless. It is better at once to pull the tongue well out of the mouth, and passing a hook through the tip, confide it to the care of an assistant. I am convinced that in some cases in which artificial respiration has failed, it has been from the neglect or too tardy adoption of this very simple means. Time of the utmost value has been lost in the absurd attempt to restore animation, by applying stimulants to the nostrils, or pouring cordials into the mouth, without even a thought that the first can have little or no effect after the respiration has ceased, or that the second would as likely pass into the trachea and bronchi, as into the stomach."

II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 98.—*Analyses of the Cases of Injuries of the Head examined after death, in St. George's Hospital, from January*, 1841, *to January*, 1851; *with Pathological and Surgical Observations.* By PRESCOTT HEWETT, Assistant-Surgeon to St. George's Hospital.

(*Medical Times and Gazette*, June 18, 1853.)

In this Analysis the author purposely included only fatal cases, wherein the exact nature of the injury has been clearly ascertained.

SECTION I. *Scalp Wounds without Fracture of the Bones.*—In this decennium, 33 cases of scalp wounds without fracture of the bones were examined. In 10 of these cases death was produced by some other cause. In the remaining 23 cases, mischief of a serious nature soon followed the injury, and ultimately proved fatal. Diffuse cellular inflammation occurred in 17 cases, and in 12 this was accompanied with erysipelas. In 4 cases there was diffuse inflammation of the neck, which spread down to the mediastina in 2, and caused œdema of the larynx in 2 cases. Hæmorrhage in 2 cases followed sloughing caused by inflammation. In 9 out of 12 cases, where both brain and its membranes were healthy, death ensued from purulent infection. In 10 cases inflammation had existed about the membranes or the brain. In 8 suppuration was found between the bone and the dura mater. The trephine had been applied in 3 cases. Most of the patients were persons of intemperate habits. Several had insisted upon leaving the hospital, but were re-admitted with swelling of the scalp and other signs of inflammation. Simple acupuncture, as recommended by Sir B. Brodie, relieves the œdematous swelling not uncommonly following scalp wounds; but free incisions are required when suppuration ensues. Sloughing of the scalp is thus usually prevented. Separation of the dura mater from the bone may occur either as a primary or as a secondary effect. In the first case, the small vessels connecting the dura mater to the bone are ruptured by the blow; in the second, the osseous tissue inflames and suppurates. Generally speaking, the suppuration between the bone and dura mater is circumscribed, and the extent of the mischief on the inner side of the bone is exactly traced by that on the outer side; but should the suppuration occur in the parietal region, it may be much more diffuse. In this decennium there has been no single instance of the secondary puffy tumour of the scalp described by Pott. It has never fallen to the Author's lot to witness a case in which the application of the trephine for the evacuation of pus within the cranium, as described by Pott had a successful issue. He has never known the trephine applied at St. George's Hospital with the view of evacuating matter situated either under the dura mater or in the brain. Matter may flow, upon the application of the trephine, from the cancellous diploe of the cranium. Purulent infection was observed in fourteen out of twenty-three fatal cases of scalp wound. This disease is found especially in injuries involving the osseous system; and M. Chassaignac believes that the removal by the trephine of the contused bone, before suppuration has taken place in its diploe, destroys the source whence the secondary mischief is for the most part derived; but such an explanation cannot be received as a valid one.

SECTION II. *Fractures of the Bones, and Separation of the Sutures.*—In this decennium, 78 cases of fractures of the skull were admitted, 18 of which

had received other severe injuries, of a nature likely to cause death; 56 were simple fractures; 22 were compound. Of the simple fractures, 19 were accompanied by wounds of the scalp not exposing the bone; extensive separation of the sutures co-existed in 14 cases. In 47 cases the injuries had been produced by the patients having fallen from various heights: in 10 the blow had been inflicted by some heavy instrument. In the 56 cases of simple fracture, there was only one single instance in which the injury was confined to the spot upon which the blow had been struck. Fractures of the base of the skull seldom exist alone; in a large majority of cases the injury co-exists with fractures radiating from the point where the blow was struck. In 68 cases of fracture of the base, six only were confined to this region; and it was only in two cases that no trace of fracture could be detected at the seat of the blow. In six cases of simple fracture, the injury was accompanied by depression, which was in all very slight. In 10 cases of compound fracture, there was also depression of the fragments, considerable in nine. Fractures of the skull, with depression of the inner table alone, occur but rarely. The author divides the skull into three zones, to each of which injuries are often confined, fractures of the middle zone being the most common. Fractures involving the orbital plates of the frontal bone are oftentimes accompanied with effusion of blood in the orbit. Bleeding from the ear is of not unfrequent occurrence in severe injuries to the head, indicating fracture through the petrous portion of the temporal bone, one of the surest is the copious discharge of a watery fluid, which may or may not be preceded by bleeding. The author believes the fluid to come from the sub-arachnoid space. That such is sometimes the case has been established by M. Robert, in a valuable paper in the 'Mémoires de la Société de Chirurgie de Paris,' vol. i. The discharge occurred in old as well as in young subjects. M. Chassaignac has endeavoured to prove that this fluid owes its origin to the filtering of the colourless part of the blood, and other surgeons have held that it comes from the cavity of the arachnoid. Such cases, however, if they do occur, must be rare. The author does not believe that the source of the watery fluid in all cases is the sub-arachnoid space, but in most cases, and especially those where it is clear and abundant from the commencement; and he refers to Mr. Hilton's lectures in proof of this statement. Extensive separation of the sutures co-existed with the fractures in 14 cases; separation of the coronal suture occurred in seven cases, and of the lambdoidal in three cases; of the sagittal suture in four cases. In one case, and in one only, there was separation of a suture without a fracture; it occurred in the posterior part of the squamo-parietal suture.

ART. 99.—*Depression of the Skull Relieved by a Novel Mode of Cupping.* By S. NICOLLS, M.D., Surgeon to the Langford Union Infirmary.

(*Dublin Medical Press*, Sept. 1853.)

Some time ago a child, æt. two years, was brought to Dr. Nicolls, suffering from depression of the skull, consequent upon a fall from a table. The symptoms of the compression of the brain were urgent, and of some hours' continuance. On examining the head he found a deep narrow depression, about three inches in length, extending from the lateral part of the occipital along the parietal bone, but without any wound in the integuments. It occurred to him to try to elevate the depressed bone by the application of a cupping-glass, and with this

end in view he tried several glasses of various sizes, but owing to the form of the parts he could not fix any of them. At last it occurred to him to surround the depressed parts with an embankment of common glazier's putty, and to apply the glass upon this, when he at once sueceeded, both in fixing the glass and in raising the depressed bone. The symptoms of compression passed off shortly afterwards, and the child recovered, without any ill consequences from the accident.

ART. 100.—*Case of Recovery after Compound Fracture of the Frontal Bone, and Loss of Cerebral Substance.* By GEORGE MALLETT, of Bolton.

(*Assoc. Med. Journ.*, July 15, 1853.)

Speaking of this case, the author very aptly says, that *nil desperandum* ought to be the motto of the surgeon.

CASE.—R. Booth, æt. 60, a stonemason, was struck on the forehead by the handle of a windlass in rapid motion. He was taken up by his fellow-labourers quite insensible, and conveyed to his house, about a quarter of a mile from the spot.

The medical gentleman residing in the neighbourhood soon saw him; and considering the case to be utterly hopeless, and that life could not continue many hours, he came to the conclusion that nothing could or ought to be done.

The accident occurred in the afternoon; and on the following morning I was requested to visit the man, as he was still alive.

Upon examination, the frontal bone was found to have received a compound fracture and to be much shattered. The entire breadth of the bone, and from one inch to an inch and a half of its height, were driven into the brain. A very considerable quantity of the cerebral matter was adherent to the adjoining parts.

The man was quite insensible; the breathing was slow and almost stertorous; the pulse slow and full.

I had formerly seen some desperate cases of cerebral injury, which recovered: an account of which was published in the seventh volume of the 'Association Transactions.' I therefore resolved at once to remove the fractured pieces of bone, and give him a chance.

Mr. B., the medical man who had seen the case on the preceding evening, was sent for; but he not being at home, I, with the assistance of a medical friend, proceeded to remove the shattered fragments of the frontal bone, some of which were found deeply imbedded in the substance of the brain. Twelve pieces of various sizes were removed, and still the man remained quite insensible to our operations; but on the extraction of the thirteenth, and, as it proved, the last, which was a larger piece and more deeply imbedded than the others, he started up in bed and uttered—no doubt from his accustomed habit, and quite unconscious of what had been going on—an oath. Water-dressing was applied, and the head was directed to be kept cold by the constant application of that fluid to the scalp.

I saw him on the following morning, and found him quite sensible, and exhibiting no unfavorable symptoms. I left him in charge of the neighbouring surgeon, requesting that his bowels should, if necessary, be occasionally relieved by a little castor oil; and we agreed that if any unfavorable symptoms should arise, I should be immediately informed. The only intelligence I had

was, that he was gradually advancing towards a restoration to health; and after a few weeks I heard no more of the case, and therefore concluded that all was well.

About three months after the accident, I was greatly surprised and pleased to see the man enter my surgery, having walked from his own home, the distance being from three to four miles. The wound was completely healed by granulations, but had left a most frightful deficiency of bone. The pulsations of the brain were seen immediately under the newly formed skin. His intellect, as far as I could judge, was unimpaired; and the muscular power not at all paralysed. In fact, I may say, as he did, that he was quite well. I never saw him afterwards—but I was quite convinced, and endeavoured to convince him, how precarious his existence must be without the greatest care, from the very delicate and insufficient protection which the anterior portion of the brain possessed, being deprived of so large a portion of the frontal bone, no reproduction of which was to be expected.

Art. 101.—*A remarkable Gun-Shot Wound, in which the breech of a gun remained imbedded in the cells of the Ethmoid and Sphenoid Bones for a period of eight years.*

(*Medical Times and Gazette*, Sept. 10, 1853.)

This very remarkable case was communicated to the Newcastle and Gateshead Medical Society, in the last session, by a military surgeon, whose name is not given.

An officer, 32 years of age, serving in the island of Ceylon, in the year 1828, while in the act of firing at an elephant with a cut-down musket of the old description, was knocked down by the bursting of the piece. He lay insensible for some time; but, being alone, was uncertain how long; and, on the return of consciousness, found himself wounded in the forehead, the *débris* of the musket lying about him. He was, however, able to get on his feet; and, on assistance arriving, and search made, most of the shattered fragments were forthcoming, but the breech, which was nowhere to be found, until after the lapse of several days, when it was ascertained to have been the cause of the wound, and that it actually remained imbedded in the skull. In the course of about three months, the patient had recovered sufficiently to resume his duties: the wound in the forehead remaining open, but being protected by a covering of black plaster. So matters rested for a few months more, when the pointed portion of the iron breech made its way through the palate, together with the head of the screw by which it had been secured to the stock, and which was still loosely inserted through its proper hole in the iron, as they had together been torn from the woodwork. They had continued to descend gradually lower and lower, so that the point of the iron was in almost constant contact with the tongue, by which its edge was worn smooth and polished. As will be naturally concluded, a profuse secretion of pus was kept up; this was generally most offensive, requiring the greatest attention to cleanliness, and a consumption of lint and tow somewhat enormous; despite all which, the discomfort of the sufferer was occasionally added to by the engendering of maggots within the wound. It was on one of these occasions, eight years after the accident, that I first saw the case, and had, from the officer himself, a statement of which the preceding is a summary. The worms were at this time got rid of by stimulating injections, but not without great

pain. The wound in the forehead was triangular, with a base about half an inch long, just above the ossa nasi, and from its centre to the apex was a full inch. Within was seen, horizontally placed, and level, or nearly so, with the base, the circular end of the iron; while, as before mentioned, the other end, with the head of its connecting screw, had now descended very low through the opening in the roof of the mouth, the small end of this screw being situated in the right nostril, and easily twirled by the thumb and finger, applied to the opposite one in the mouth. There had been great desire to get away this screw; but, though so loose, there was not space to admit of its been withdrawn; to obtain which, an ingenious attempt had been made, some months previously, by Mr. Elliott, a young surgeon, to saw off about half an inch, thus reducing its length to an inch and a half; and he had nearly succeeded, when obliged to desist, from the suffering caused to the patient, but who expressed his intention to submit to a further trial at some subsequent date. The attempt, however, was never repeated. On the evening of March 25, 1836, after the excitement of a mess dinner, with much conversation, and some rather loud singing, in which this officer bore a conspicious part, while leaning over to one side, his chair slipped from under him, and he came to the floor in a sitting posture, but did not at the time appear to have sustained any hurt; though it was scarcely to be expected that such a succussion, with a large foreign body in the head, and in such close proximity to the brain, could take place without consequences of a serious and dangerous tendency. The next day, headache and general pyrexia came on, and rapidly increased with evident vascular determination to the brain, delirium ensued, and death closed the scene on the 2d April—the seventh day after the fall, Eight hours after death the head was examined. The brain and its membranes were in a high state of vascularity, and a small abscess was found in the anterior lobe of the right hemisphere, very thinly separated from the orbitar plate of that side, and connected with a dense membrane that supplied the deficiency occasioned by the absorption of a triangular portion of the cribriform plate of the ethmoides; this adventitious membrane being, of course, the only medium of separation between the brain and the cavity containing the iron, which, on removing the membrane, was brought into view, but was only fully exposed by an horizontal section of that part of the os frontis, below the superciliary ridge and orbitar plate, with the necessary vertical ones to complete the separation. The cavity formed of the ethmoidal and sphenoid cells, the inner bony structure of which had been removed by absorption, had a black appearance, and a fetid sulphurous odour; the iron was now removed without difficulty by the bullet forceps; had a black charred appearance, with a strong odour of gunpowder, and, when cleared of its adherent impurities, weighed (including the screw) within a drachm and a half of three ounces; its length, $2\frac{3}{4}$ inches; and its greatest transverse diameter $1\frac{3}{16}$ inch. The screw exactly 2 inches in length.

Art. 102.—*New Method of Operating for Strabismus, by a Temporary Ligature.* By M. Tavignot.

(*Dublin Medical Press*, July 20, 1853.)

In a memoir recently presented to the Academy of Science at Paris, M. Tavignot explains a new method of operating for squinting. This new operation is founded on the following idea, that, instead of lengthening a muscle supposed to be too short, you must shorten a muscle in

reality too long. Instead of leaving the eye to oscillate with difficulty, and sometimes sluggishly, between two muscles, one of which is mutilated by a section, and the other remains always more or less powerless, my method of operating, says the author, attacks the longest muscle, and not only shortens it by a sufficient length to equal that of its antagonist, but it furthermore acts by increasing its physiological contraction.

First operation.—The longest muscle—that is to say, that one which is opposed to the deviation being exposed in the ordinary manner for strabotomy, the operator proceeds in the following manner :—A blunt hook, with an eye at its extremity, is passed underneath the muscle, so as by lifting it up to detach it from the globe of the eye. The hook is then carried forward, so that its concavity embraces the muscle at a little distance from its aponeurotic expansion. A thread of silk is then passed through the eye of the hook, then the hook itself is brought towards the operator, leaving the ligature under the muscle. By a double twist of the ends of the thread on one another, a simple, yet very resisting, knot is obtained. There only then remains to finish the operation, to tighten the knot, and cut away one of the ends of the ligature. The other end is brought to the corresponding angle of the eye and fixed to a spot on the circumference of the orbit.

The first effect of this ligature is to render the lateral fibres of the muscles more central, and thus to bring about a shortening of this organ. The second effect is to develop an adhesive inflammation, which not only fixes permanently the abnormal juxtaposition of the muscular fibres, but also establishes adhesion between the muscle and subjacent sclerotic membrane.

The ligature not being intended to produce division of the muscle, must consequently be only temporary. Towards the end of the second, or beginning of the third day, it can be easily taken off by means of gentle traction carefully applied to the end which remains.

This first operation may not in all cases produce the effect which we have described. Very severe strabismus will no doubt prove refractory. It is at least with this idea that I have devised a way of making it more efficacious.

Second operation.—The hook having been passed over the muscle, as in the preceding case, the ligature is passed, not directly under the muscle, but under the hook, so as to embrace the muscular expansion.

Before going further, it must be discovered by a momentary constriction if the globe is perfectly restored to its normal position. To prove experimentally that the ligature has effected the required degree of shortening, we must proceed, during the operation, in the following manner :—The ligature being passed once under the hook, a different coloured thread must be passed through the loop thus formed, then constriction is made by means of the first-mentioned ligature, but taking care to make only one knot, and to make it a single one only. The hook is then withdrawn, and the eye left to itself. The changes in its direction can now be judged of accurately. If the globe is not brought back sufficiently, a larger quantity of muscular tissue must be embraced by the ligature; if the globe is too much brought back, a lesser quantity of muscular tissue must be enclosed; but in either case

the ligature already put on must be withdrawn as soon as possible. Owing to the precautions we have adopted with this view nothing is more easy; the eye being fixed, one end of the ligature is drawn with one hand, while the other hand pulls the thread passed through the loop of this same ligature. The knot gives way immediately to this opposed extension. There only then remains to pass the hook again underneath the muscle (if it has not been already done before taking away the ligature,) and recommence the operation, keeping in mind the data furnished by the first trial.

Art. 103.—*Some Account of a New Ophthalmoscope.*

By T. Spencer Wells, f.r.c.s.

(*Medical Times and Gazette*, Sept. 10, 1853.)

At the conclusion of the late Mr. Dalrymple's 'Pathology of the Human Eye,' the lamented author stated that no plates of amaurotic diseases had been given, "because the objective symptoms are scarcely subjects for the artist, little generally being visible suited to pictorial representation." He adds, and few would be found to dissent from his views—"Moreover, the history of amaurosis has, I humbly submit, yet to be written. It is among the most difficult subjects in ophthalmic medicine, and well worthy the labour of a life to investigate, explain, and supply a rational and successful therapia."

I think it will be found that the investigation of this important subject will be much facilitated by the aid of sundry instruments recently constructed in Germany for the purpose of illuminating the retina in such a way that its condition may be examined in the living eye. Helmholtz, of Königsberg, deserves the credit of originating the movement; and his 'Beschreibung eines Augenspiegels' contains a full explanation of the principles on which illuminating mirrors should be arranged. The greater part of this brochure has been translated in the 'Edinburgh Monthly Journal of Medical Science,' and a full description of Helmholtz's mirror is also given, with some account of modifications made by Epkens and Rekos, and a description by Dr. Donders, of Utrecht, of the appearances he observed in two cases of partial amaurosis, by the assistance of one or other of these instruments.

The instrument of Helmholtz is undoubtedly a great assistance in examining the condition of the refracting media of the eye. The condition of the lens and its capsule and of the vitreous humour can be much more accurately defined by its use than by ordinary observation; but, after numerous trials, I became convinced that its illuminating power is far too feeble to enable one to see at all distinctly anything whatever on the retina; and that an instrument more recently contrived by M. Coccius, of Leipzic, is immeasurably superior in this respect. The instrument of Helmholtz is preferable for examining the refracting media, and it possesses the great advantage, that it may be used with an undilated pupil without producing much contraction; while the intense light from Kotzius's instrument requires full dilatation, or the pupil becomes closely contracted. But, for the

grand object of examining the condition of the retina itself, this latter instrument is very far superior to any others that I have seen.

This instrument consists of a perforated mirror and a lens. The rays of light from a lamp are concentrated by the lens and thrown on the mirror. This is held before the eye to be examined, and the rays are thrown through the pupil on to the retina. The unabsorbed rays return in the same direction, and are received by the eye of the observer, which is behind the mirror, at the spot where it is perforated.

In a healthy eye, the part behind the pupil is absolutely dark. Even when the lens and vitreous humour are clear and transparent, no ordinary examination, even when the pupil is dilated, can afford any information as to the appearance of the retina. Without some artificial assistance, we cannot illuminate the retina and also see the illuminated part. The rays of light return from the retina in the same direction as they were thrown on to it, so that we cannot bring our eyes into the direction of the rays of light returning from the retina without at the same time cutting off the supply of those rays. But, by the aid of this instrument of Coccius, the rays are reflected at an angle upon the mirror, are then conveyed to a focus on the retina by the media of the eye, and the unabsorbed rays, on leaving the eye, return to the mirror whence they came, and are also received by the eye of the observer.

When the instrument is to be used, the pupil is dilated by atropine, if not naturally dilated. The patient is seated in a dark room near the corner of a table, on which a bright lamp is placed at the level of the eye. The surgeon sits before the patient, and screens the face of the latter by an upright shade, so that the eye is the only illuminated part. Holding the mirror opposite the eye, he then adapts the lens in such a manner that a bright concentrated light is seen to fall on the pupil. Then he applies his own eye to the back of the mirror. The instrument is held at different distances from the eye until a clear view is obtained, and then the patient, by moving his eyes in different directions, exposes the different parts of the retina to view. This appears rather difficult at first, but a very little practice enables one to find the proper position of the instrument. When the retina is not clearly seen although the pupil is well illuminated, a concave glass is interposed between the mirror and the observed eye, by the hand not employed in holding the instrument.

Examination of the retina in this manner is very interesting. Blood-vessels are first distinctly seen ramifying upon it, and by tracing them from the smaller branches to the larger roots, we arrive at the point where the optic nerve enters. This differs in appearance from the rest of the background of the eye, as it is not covered by pigment, or a network of vessels, but a sort of transverse section of the nerve here lies open to view, with a few fine vessels passing through it. The arteries and veins of the retina enter and leave near the inner part. Sometimes a portion of the vessels may be seen concealed in the substance of the nerve itself, showing that this substance is transparent during life. The two orders of vessels are distinguishable from each other, as the blood is of a brighter colour in the arteries, and the walls of the latter and their first subdivisions are thicker than

those of the veins. Pulsation cannot be distinctly recognised, so far as I have been able to discern, though some observers fancy they can see it. The first divisions of the vessels border the inner side of the optic nerve, and then extend all over the field of the retina. The appearance of the red vessels on the illuminated base is really beautiful. Helmholtz remarks, that, close to the inner side of the nerve, he has always remarked a small semi-lunar strip of shadow, which appears to be from a fold of the retina. This appearance is universal, and is doubtless produced by the plica semilunaris. In most parts of the eye the base appears of a yellowish red, of a brighter red around the optic nerve, and darker the further we pass from it,—not of an equal colour, but as if with small darker patches. The point of direct vision (macula lutea, or foramen of Soemmering) has a peculiar appearance. The eye is directed exactly upon the ray of light, and the retina is seen at that spot to be darker, greyish-yellow, without admixture of red; and no traces of capillary vessels can be seen on it. It is difficult to make this out without practice, because the reflection from the cornea is apt to destroy it; while this reflection does not interfere when the eye is turned to either side for the examination of the lateral portion of the retina.

As an auxillary in diagnosis, the ophthalmoscope must prove very valuable, as anything opaque before the retina must mask its vessels. Cloudiness of the vitreous humour, according to its degree, will obscure the view of the vessels of the retina. Opacity of the lens, or of its capsule, would of course act in the same manner.

ART. 104.—*On the Use of Two Needles at once in certain Operations on the Eye, especially in those for Capsular Cataract and Artificial Pupil.* By WILLIAM BOWMAN, F.R.S., Assistant-Surgeon to the King's College Hospital, and to the Royal London Ophthalmic Hospital, Moorfields.

(*Medical Times and Gazette*, June 18, 1853.)

The operation consists in the simultaneous employment of two needles introduced at different points through the outer coat, and made to act in concert upon false membranes, opaque capsule, or iris, or even on the lens itself, under certain circumstances. Several advantages attend this mode of operating. Opaque portions of capsule are often very tough, and, being attached to the suspensory ligament of the lens, or to the pupillary borders of the iris, these extensile structures readily allow the opaque membrane to recede before the needle, rather than be torn or cut through, and the surgeon vainly sweeps the membrane before the instrument from side to side, at the risk of serious injury and consecutive inflammation of the ciliary processes or iris. Two needles, brought to bear upon the opaque capsule from different sides of the cornea or sclerotica, furnish each other with a point of resistance, and the capsule may be torn open or cut at pleasure. If it be reticulated, it is possible to twist one of the needles round and round the band, so as to get a hold upon it in case it should prove very tough. The needles usually act perfectly, if passed through any

convenient opposite points of the margin of the cornea, the pupil being always, where possible, dilated by atropine. It is but seldom desirable that one of the needles should be passed through the sclerotica. Both the hands of the operator being engaged, it is necessary that the lids should be held open, either by an assistant or by the wire speculum. The second needle may be used in cases where the first, or single needle, has failed to cut through the capsule. The instruments are, the ordinary cataract needle, the stem cylindrical, and of a size to easily occupy the corneal puncture, the point either straight and cutting, or slightly curved, according to circumstances. In no case is it necessary to enter the instrument beyond half an inch in depth; the stem may, therefore, be made thicker from this distance. This plan of operating enables the surgeon to cut through a softened and rotten iris, without dragging it from its attachment, and otherwise injuring the interior of the globe. Mr. Bowman has used it successfully in the formation of artificial pupil.

Art. 105.—*On a Cause of Deafness not hitherto described.* By Prof. Syme.

The two following cases present examples of a morbid derangement of the auditory organ, which does not appear to have been noticed by any former writer:

Case I.—W. T—, æt. 17, was admitted into the Royal Infirmary on the 27th of September, 1848, on account of severe pain and deafness of his left ear. On looking into it, I saw at the bottom of the tube a small white body, apparently composed of bone, but so extremely sensitive of pressure, that a satisfactory examination could not be accomplished until the patient was placed under the influence of chloroform. It was then ascertained that the growth possessed an osseous consistence, and as it did not so fully occupy the cavity as to prevent me from introducing the point of the small polypus forceps, I, by this means, easily effected its extraction. It was similar in size and form to the half of a small split-pea, and had adhered to the side of the cavity by a narrow neck. The patient sustained no inconvenience, and immediately regained his hearing, while the pain, which had been so severe for the preceding three months as to render him unable for following his employment, completely ceased.

Case II.—R. H—, æt. 35, was admitted into the Royal Infirmary, on the 5th of April, 1853, on account of deafness and uncomfortable sensations connected with his right ear, by which, he said, that for twenty years the ticking of his watch could not be heard. On looking into the tube, I saw an appearance so perfectly similar to that which has just been described, that I at once recognised the same condition. As the excrescence was larger than in the former case, it did not allow space for introducing the point of the forceps, but allowed a probe to be passed round it, so as to let me ascertain the position of its connecting pedicle. By means of a small straight scissors I divided this, and then lifted out the piece of bone. The patient immediately regained the power of hearing.

ART. 106.—*On a Simple Method of Ascertaining, without the use of the Catheter, whether the Eustachian Tubes are pervious; with some Observations on the Treatment of Cases of Obstruction in these Tubes.* By JOSEPH TOYNBEE, F.R.S.

(*Medical Times and Gazette*, April 9, 1853.)

The author pointed out the objections to the two ordinary modes of exploring the Eustachian tubes—viz., that the use of the catheter is liable to produce pain and discomfort; that, without experience, it is not easy to ascertain whether it be really in the tube; that the plan of attempting to distend the tympanum by a forcible expiration, while the mouth and nostrils are kept closed, is not always successful, from the fact that the young and nervous cannot be taught to perform the act, and that sometimes, when it is properly done, the guttural orifices of the tubes seem to be pressed together so as to preclude the air from entering. In a paper recently read before the Royal Society, the author endeavoured to show that the guttural orifice of each Eustachian tube is generally closed, and that the air in the tympanum is not continuous with that in the cavity of the fauces, except during the momentary act of deglutition. In proof of this the following experiment was cited:—If the mouth be shut, and the nostrils be held closed by the finger and thumb, and then the act of swallowing be performed, a sensation of fulness or pressure is experienced in each ear; and this sensation does not disappear upon the removal of the pressure from the nose, but it vanishes at once when the act of swallowing is again performed, while the mouth and nostrils are open. During the first act of swallowing, a small quantity of air was forced into the tympanitic cavities through the Eustachian tubes, and it therein remained until the second act of swallowing again opened the tubes and permitted the air to escape. The muscles whereby the Eustachian tubes are opened are the tensor and levator palati, which it is well known take origins from the cartilaginous walls of the tubes. As, during the act of swallowing with closed mouth and nostrils, air is forced through the Eustachian tubes into the tympanic cavities, it is evident that the permeability of these tubes can be ascertained by making the patient swallow some saliva while the mouth and nose are shut. Nor need the surgeon depend upon the statement of the patient respecting the sensation of distension felt in the ears; for, by listening with the otoscope, should the Eustachian tubes be pervious, the air will be distinctly heard to enter the tympanic cavities, and produce a gentle crackling sound. The author next proceeded to consider the treatment of cases of obstruction of the Eustachian tubes, especially in reference to the use of the catheter. It having been ascertained that these tubes are obstructed, is it desirable to attempt to open them by means of the catheter? Believing that the obstruction in the Eustachian tubes generally depends upon a thickened state of the mucous membrane covering the guttural orifice, and that this state is always associated with a thickened condition of the faucial mucous membrane, and of the mucous membrane of the tympanum, the author suggests, especially to those inexperienced in the use of the catheter, not to at-

tempt to pass this instrument—firstly, because, in such cases, the mucous membrane of the Eustachian tube is often so tumefied that no ordinary degree of pressure will force the air into the tympanum; and, secondly, because, should the surgeon succeed in transmitting a few air-bubbles, the relief obtained is only partial, and endures for a very brief period, since the mucous membrane remains as thick as before, and the ill effects of the obstruction soon recur, from the air in the tympanum becoming of a different density from that without. The membrana tympani becomes more or less fixed. The treatment recommended is such as shall tend to reduce the thickened mucous membrane of the guttural orifices of the Eustachian tubes to a healthy state, so that their muscles may be able to open them. For this purpose, besides the use of general remedies, the solid nitrate of silver, or a strong solution of hydrochloric acid, may be applied to the mucous membrane of the fauces and to the apertures of the tubes, and gentle counter-irritation is to be kept up over the region of the fauces. By these measures, as a general rule, the mucous membrane can be reduced to its natural state, and the tubes become again opened by their muscles. Should this not take place, the Eustachian catheter may now and then be introduced, and air be gently blown through it. A modification in the shape of the Eustachian catheter is suggested—viz., that it should be oval instead of round, the advantages derived being, that it not only can be passed through the nose with less discomfort to the patient, but its presence in the Eustachian tube is much less disagreeable from the absence of the convex surfaces which, in the rounded catheter, press against the nearly flat surface of the tube. In conclusion, the author expresses his concurrence in the opinion of Harvey and Kramer, that enlarged tonsils are never the cause of obstruction in the Eustachian tubes, and any benefit that may have followed their extirpation has arisen from the loss of blood consequent upon the opposition.

ART. 107.—*Extirpation of the Upper Jaw.* By (1) M. HEYFELDER, Prof. of Clinical Surgery at Erlangen; and (2) Mr. BUTCHER, Surgeon to Mercer's Hospital, Ireland.

(*Rév. Méd. Chir. de Paris*, Mai, 1853; and *Dublin Quar. Journ. of Med.*, Aug. 1853.)

1. M. Heyfelder gives two cases, in which he extirpated *both* superior maxillary bones, and from the particulars given, he appears to be among the first of those who have performed this operation, if not the first. The disease, in both cases, was of a cancerous nature, and a relapse followed; but the result, so far as the operation went, was quite satisfactory. One of these cases will serve to illustrate both.

CASE.—A. Schmidt, æt. 25, came to the Clinique, June 13th, 1844, suffering from a tumour of the face, which, from his account, had commenced a year ago, in the posterior part of the palate, and had gradually involved both superior maxillary bones. The nose was pushed upwards, and flattened; the palatine arch was depressed towards the tongue; the face was affected with œdematous swelling; both respiration and deglutition were impaired; speech

was embarrassed, and the sleep broken. The teeth, though loosened, were sound; only two incisors were wanting. The tumour appeared everywhere hard, uneven, and insensible to the touch, and did not pass beyond the boundaries of the superior maxillary bones. The constitution was good; lancinating pains had been felt in the tumour only during the last few weeks.

Dr. Heyfelder concluded that the tumour was of an indolent malignant character, and that the only remedy consisted in the entire removal of both maxillary bones. The operation was performed June 23, 1844. The patient being seated in a chair, the head resting against the chest of an assistant, two incisions were made from the external angles of the eyes to the labial commissures, and the included parts were reflected upwards to the internal angles of the eyes and to the ossa nasi. The flap thus formed was raised towards the forehead, until the infra-orbital ridge was exposed. Then the chain-saw of Jeffray was passed through the spheno-maxillary fissures, and the malar bones were divided; the maxillæ were next separated from the ossa nasi; the vomer and the thinner bones were cut with strong scissors; after which a chisel, applied with moderate force to the superior part of the tumour, was sufficient to effect its separation. The accessions of syncope prolonged the operation, which, however, did not last longer than three quarters of an hour. Very little blood was lost; torsion and compression sufficed to arrest the hæmorrhage. Two hours afterwards the edges of the wounds, from the angles of the eyes to the corners of the mouth, were united by twenty-six points of suture, and cold lotions were applied; there was no reaction nor swelling; the patient could swallow water and broth. Four days after the operation it was remarked that the wounds had become almost entirely united by first intention. In six weeks the patient was presented at the Physico-Medical Society of Erlangen, and on August the 25th he was discharged.

The following was his condition:—There was no deformity of the features; in the mouth there was seen along the median line a fissure thirteen lines long and three lines broad; the extirpated parts had been replaced by the tissue of a cicatrix, firm and solid at the circumference, but somewhat softer near the fissure; the soft palate and the uvula were in their natural place; deglutition was free, and the tongue in a better state than formerly; the nose had resumed its usual form and direction; the face, which before the operation was monkey-like, once again possessed a human expression.

The microscopical examination of the tumour showed that it was of cancerous nature. Six months afterwards, the patient, in good health, went to work in the fields; but in the summer of 1845, Dr. Heyfelder was informed that another tumour was forming in the forehead.

2. Mr. Butcher relates a case in which he removed from a youth the whole of the right upper jaw, together with the whole of the palate bone of the same side. The disease was a large fibro-vascular tumour springing from the antrum. The patient recovered without any difficulty and with little deformity. Mr. Butcher, also, analyzes the experience and opinions of other surgeons with respect to this operation, and ends with the following practical remarks:

The practical point deducible from the opinions and experience of these eminent surgeons is, that it is by no means necessary to adhere to any particular line of incisions; a knowledge of anatomy, and the shape of the tumour, in short, the attendant circumstances of the case will modify them, and determine their course and extent.

In conclusion, there are a few points to which I wish specially to direc attention; and first, with reference to tying the carotid artery, as insisted on

and put into practice by Lizars, in his operations on the jaw. Experience has proved that this proceeding is altogether unnecessary. The bleeding will be but trifling after once the flaps are formed, if the surgeon is not rash in the use of the knife; when detaching the tumour and bone from its posterior connections, the edge of the instrument should be kept close to the osseous tissue, and then the internal maxillary artery will not be endangered. All soft attachments should, if possible, be torn down with the finger, and the very depression and gentle wrenching of the mass from its bed with the forceps will tend to lacerate the vessels entering from behind, and still further avert bleeding. It is an important object to prevent, as much as possible, the blood flowing towards the throat in the early part of the operation, hence the advantage of the sitting posture, and of beginning with the division of the cheek bone before the nasal process of the upper jaw bone itself is attacked, as illustrated in my case.

In operations performed for the removal of either a portion or the whole of the superior maxillary bone, I do not conceive we can avail ourselves of the use of chloroform. I agree with Mr. Stanley, that there is a serious objection to its administration; for inasmuch as by its influence in annihilating sensibility, the irritability of the glottis is weakened, if not wholly lost, so there must be danger of a trickling of blood from the mouth into the glottis, without the excitement of a cough to expel it from the windpipe. The amount of this danger may be considered small, but it is sufficient to know that the apprehended evil has once occurred. Severe as the pain of these operations may be, it had better be endured than the risk of suffocation incurred, which must be regarded as a possible occurrence from the filling of the pulmonary air tubes and cells with blood. As to the division of the bone, cases will seldom occur where the chisel and mallet will be required; they cause great jarring, and, if possible, should not be used. So likewise may saws be dispensed with, for well-formed cutting pliers and powerful scissors, if the operator possesses the required strength to use them; and by the adoption of the latter, the section can be completed with such comparative rapidity, that the sufferings of the patient are greatly diminished, and the shock abridged, while, at the same time, be it remembered, if the instrument is steadily handled, the bone may be as evenly divided as by any other means, or, practically speaking, sufficiently so to permit healthy repair of the cut edges, a fact very remarkably exemplified in the case of the young man I operated on.

Art. 108.—*A New Method of Treatment for Fractures of the alveolar portion of the Lower Jaw.* By M. Robart.

(*Dublin Quarterly Journal of Medicine*, May, 1853.)

In a review of the present state of French and English surgery, the subjoined notice of this novel mode of treatment occurs:

"A piece of lead, half a line in thickness, is to be moulded exactly upon the lingual border of the maxillary bone. To retain this plate in its place, a needle armed with a silver thread, should be passed along the internal surface of the maxilla, through the floor of the month, and drawn outwards; the other extremity of the thread, conducted in a similar manner along the internal surface of the bone, should be brought out through the same orifice. The two ends of the thread thus drawn out under the chin, embracing the fragments in the loop which they form, are to be fastened round a small roll of adhesive plaster, placed beneath the chin, and twisted until the leaden plate is firmly fixed in its place within the teeth."

—This account is taken from the 42d volume, p. 24, of the *Bulletin Thérapeutique.*

ART. 109.—*On Wounds of the Neck.* By G. J. GUTHRIE, F.R.S.

(*Lancet*, April 23, 1853.)

Wounds of the neck which are made with swords, or by knives or razors, by persons attempting to destroy themselves, are to be treated on two great principles. The *first* is, not to place the parts in contact until all hæmorrhage has ceased, lest the patient be suffocated. In the meantime, whilst any oozing continues, a soft sponge may be placed between the edges of the cut. When the larynx or trachea is obstructed by a quantity of blood, it may be sucked out, or drawn up by an exhausting pump, and it may be advisable in some cases to introduce a tube. If the trachea be cut across, a stitch will be necessary to keep the ends in contact. The *second* is, to keep the divided parts in contact afterwards, by position and bandage, but not *by suture.* If the œsophagus be wounded, nourishment should be administered by a gum-elastic tube introduced through the nares into the stomach. It is almost unnecessary to add that the artery should be secured by ligature. A hole in the internal jugular vein may be closed by a thread passed around it when raised by a tenaculum.

Captain Hall, of the 43d Regiment, was wounded by a ball which passed between the upper part of the back of the larynx, and the termination of the pharynx, without causing much further inconvenience than the loss of voice. In this instance it must have been the superior laryngeal nerve that was injured, and not the recurrent, yet the voice could only be heard in a whisper, and was not completely recovered for years. If a ball should lodge in the trachea, it must be removed by the operation of laryngotomy or tracheotomy, if the original wound cannot be enlarged; although Birch, says Christopher Wren, hung up a man wounded in this way, by the heels, when the ball dropped out through the glottis and mouth. General Sir E. Pakenham, who was killed at New Orleans by a ball which went through the common iliac artery, had been twice shot through the neck in earlier life. The first shot, which went through high up, from right to left, turned his head a little to the right. The second shot, from left to right, brought it straight. My kind and excellent friend had ever afterwards a great respect and regard for the doctors, and a strong feeling for the wounded. The recollection of that regard, and the advantages derived from it, has made me sometimes think it might be advantageous for the unfortunate as well as for the doctors if every general could be at least shot once through the neck or the body, before he was raised to the command of an army in the field; for there is nothing like actual experience of suffering to make men feel for their fellow-creatures in distress.

ART. 110.—*A Case of Dislocation of the Cervical Vertebræ without fracture, resulting from violence.* By RICH. G. H. BUTCHER, ESQ., Surgeon to Mercers' Hospital, Dublin.

(*Dublin Quarterly Journal of Medicine*, May, 1853.)

Accidents of this nature, except in the two uppermost vertebræ,

are so very rare, that the highest authorities have denied their possibility. A case is related by Mr. Lawrence; another by Mr. Liston; a third by Mr. Norris, of Philadelphia; a fourth by Mr. Lavalle, of Charenton; and a fifth occurred in the Haslar Hospital; and these, according to Mr. Butcher, who gives abstracts of them in this paper, are the only cases on record. The following case is, therefore, one of great interest.

Michael Roche, æt. 36 years, admitted into Mercer's Hospital, under my care, at half past four in the afternoon of February 4th, 1853. The man, being employed as porter at a coach-office, was in the act of arranging some luggage on the top of a vehicle, when he slipped off, and fell upon the pavement on his head. He was quite sensible after the fall, but was instantly deprived of all power of motion in the lower limbs, and nearly so in the upper. The first complaint he made was relative to excruciating pain at the root of the neck. The accident occurred not more than two hundred yards from the hospital, and I was summoned immediately to see him; a few minutes had only elapsed, and I found him in the following condition: He was perfectly collected and sensible, the brain not being affected; he deplored his condition audibly, but the voice was feeble and could not be raised in answering questions. There was a lacerated wound in the scalp, about two inches in length, over the occipital bone, at its superior margin, and to the left side just below where it comes in contact with the superior posterior angle of the parietal bone. I examined the wound. The periosteum was slightly detached, but the bone was not depressed; he did not complain of pain here, but referred all his sufferings to the root of the neck. On examination, a manifest depression was perceptible at about the junction of the fifth and sixth cervical vertebræ; and this was rendered more strikingly conspicuous by a transverse sulcus in the corresponding soft parts. The head was inclined a little backwards, and to the right side, and the face was also slightly rotated in the same direction. The neck was somewhat prominent in front, rendered preternaturally so by the bulging forward of the trachea. The muscles of the region were in bold relief, steadying the parts in their new and acquired position, and exerting manifestly a protective influence against motion.

The entire neck and face appeared somewhat congested, though no marks of contusion were visible, even over the immediate site of injury in the spine. The patient lay upon his back, the position which he desired on being placed in bed. The lower extremities were extended, flaccid, and motionless; neither was there sensibility in them, nor over the surface of the body as high as the neck, and all power of voluntary motion was lost. The upper extremities were only partially affected as to sensation, the fore-arms and fingers were entirely deprived of it, while the upper arms maintained it in a minor degree; but the power of motion, as in the lower extremities, was totally annihilated; the upper limbs lay across the chest; the fore-arms bent; nearly at right angles with the arms, and the fingers contracted. On the slightest attempt to alter this position, intense pain was experienced, "as of the darting of a knife at the root of the neck." There was total paralysis of the intercostal muscles; the chest was motionless, except at its inferior margin; and the abdominal muscles were flaccid. Respiration was merely performed by the diaphragm; thus the muscles of expiration seemed likewise deprived of their motor power; and the expiratory effort was effected by the elasticity of the thoracic and abdominal parietes, restoring the parts which had been previously displaced by the diaphragm. The pulse was slow and weak, and the surface of the body cold. The sphincter ani had given way, and fæces were passed involuntarily. The penis was flaccid, and the bladder empty.

The treatment adopted in the first instance was entirely directed towards supporting the neck evenly, and propping the patient on either side with pillows; then the application of heated jars to the pit of the stomach and extremities, warm drinks, &c., to bring about reaction.

In five hours the pulse became full and strong, the temperature of the body rose, and the heat of the lower limbs was actually greater than natural. The respiration, which was before slow and tranquil, became hurried, and, in short, all the evidences of reaction were strikingly manifest. Ordered eighteen leeches over the injured part of the spine, and ten grains of calomel, with four of James' powder, in a bolus. A catheter was passed, and about three ounces of urine drawn of.

February 5th.—He had imperfect sleep in the course of the night; position of the body as placed on yesterday. Pulse full; action of the heart steady; respiration rather slower; refers "indescribable pain" to the root of the neck; total annihilation of sensation and power of motion in the parts already referred to. The increased development of heat in the lower extremities is very remarkable, and not at all so conspicuous in the upper; there is also to-day slight tremulous motion of the cheeks and lips. There has been no involuntary passage from the bowels since yesterday, but the entire abdomen is inflated and tympanitic. The bladder is distended. I passed a catheter, and drew off somewhat more than a pint of urine, a little darker than natural, and faintly acid. The long tube, passed up the rectum, permitted a large quantity of gas to escape. He was ordered eight leeches to the spine, calomel, two grains, and the eighth of a grain of opium every two hours. The patient requested to have his position altered, and to be placed upon the left side, which was not accomplished without much suffering, but when steadied, was a position most favourable for the dislocation of the neck.

3 p.m.—I passed the catheter, and drew off a pint and a half of urine, more acid than that removed in the morning.

6th, 10 a.m.—He has been sleeping for short periods through the night, and now seems to be in a prolonged doze, yet when roused up speaks sensibly, but again quickly relapses into quiet, and shuts his eyes. The eyes are filmy, and lack vivacity. Pulse and heart steady in beat, but weak in force. Respiration hurried and feeble. The patient makes ineffective attempts to get rid of some increased secretion of mucus from the bronchial tubes, but the cough is imperfect—the act fails; the expiratory muscles remain as from the first, paralysed. The development of heat in the lower limbs has become even greater than at any former period, though the powers of life are more prostrated. Abdomen greatly swollen, and increased tympanitis. I passed the long tube many inches up the bowel, and allowed a quantity of air to escape. Bladder distended; the catheter was introduced, and a pint of urine drawn off, far more dark and acid than on yesterday. Mouth touched by the mercury; its administration stopped.

3 p.m.—Drew off a pint of urine, highly acid and dark coloured.

February 7th, 10 a.m.—He has remained since last evening in almost a constant doze, is easily roused, and is quite sensible, but answers questions with difficulty, owing to embarrassed respiration; the countenance is expressive of great anxiety and distress, the brows furrowed and cheeks haggard. The pulse is weak and small; the upper extremities and body cold, but the lower limbs still preserve a great exaltation of temperature. He continued to grow worse, his respiration more laboured, and he expired at 1 o'clock, fifty-seven hours after the accident, retaining his faculties unclouded to the last.

Examination nineteen hours after death.—The neck rigid, in the same position as it maintained during life, and with all the external indications of dis-

placement as strikingly marked. On cutting through the muscles, and detaching them from the back of the spine, a quantity of extravated blood was situated in a circumscribed way, repullulating, as it were, from the immediate site of the injury. The supra-spinous ligament, derived from the ligamentum nuchæ, was torn through between the fifth and sixth cervical vertebræ, as well as the muscular fibres in the same locality, filling the offices of interspinous ligament; the articulating processes of the fifth and sixth cervical vertebræ were apart more than a quarter of an inch, particularly on the left side; the partial rotation of the head and five superior vertebræ to the right side, will account for this inequality; it is scarcely necessary to mention their little capsular ligaments were torn, and their polished cartilaginous surfaces exposed. On examining the front of the column, the body of the fifth cervical vertebra formed a remarkable prominence, the connecting fibro-cartilage between it and the sixth, being entirely torn through, permitted of the anterior displacement of the former by the depth of half its body in front of the latter, while two-thirds of the intervertebral substance adhered to the sixth, and one-third to the fifth vertebra, the anterior common ligament of the spine was perfect in its structure, being only separated to a small extent from the margins of the displaced bones. In order to prosecute the investigation, I removed carefully the whole of the cervical spine, without in the least degree disturbing the parts, and plunged the entire into alcohol, so as to stiffen them in their acquired position. In eight-and-forty hours I removed the transverse processes and laminæ on the left side, cutting through the pedicles in front of the former, and severing the latter close to the bifid spine. This section was readily effected by means of a fine bow saw, such as I employ in amputations. The theca was slit up, laid to either side, and the spinal marrow exposed; the specimen thus illustrated beautifully to how great an extent the antero-posterior diameter of the vertebral canal was lessened,—from careful measurement, I should say, by about one-third; and how the fatal pressure was produced between the body of the vertebra below the diastasis and the arch of the fifth above it; the slightest fragment of bone could not be detected as having been detached in the site of the injury. The preparation, as I have described it, remains in my possession, and is catalogued "Dislocation of the cervical vertebræ without fracture."

The mode in which the force was applied, in this instance, sufficiently accounts for the effect produced. The man fell upon his head, which, together with the five superior vertebræ, was driven forward, while the trunk and lower extremities, falling backwards, propelled the inferior part of the column in the contrary direction. The position of the wound, on the occipital bone, will account for the rotatory displacement towards the right side. It is unnecessary to recapitulate; the treatment of the case was directed with the following objects:—First, to steady the displaced spine, effected by the judicious arrangement of pillows; for here the removal of the deformity could not be procured by gentle means, and more violent measures were not had recourse to; secondly, large local depletion was employed to prevent inflammation and its consequences; and, lastly, the exhibition of mercury to insure this object, and protect the phrenic nerves from being involved by softening of the spinal marrow and extensions to their roots. Though all these intentions seemed to be fulfilled, as verified by post-mortem examination, yet this did not stay the rapidly fatal issue: death in fifty-seven hours after the accident.

(B) CONCERNING THE CHEST, ABDOMEN, AND PELVIS.

ART. 111.—*Pathology and Treatment of Chronic Induration of the Mamma.* By JOHN BIRKETT, Esq. Assistant-Surgeon to Guy's Hospital.

(*Association Medical Journal*, July 1, 1853.)

The subject may be divided into:

I. GENERAL INDURATION OF THE MAMMARY GLAND.
II. LOBULAR INDURATION.

The morbid condition of the tissues composing the gland is identical in both these varieties, the only difference being that in the first form *all* the lobes constituting the breast are affected, whilst, in the second, one, two, three, or more lobes are alone involved in the morbid action.

A breast thus diseased, when cut, exhibits to the unassisted eye a pinkish tint, its texture is close, but it does not appear of the same homogeneous surface throughout. The section is sometimes smooth, but, in many cases, it is almost granular. To the touch, it is hard, quite incompressible, and with difficulty torn. Very often minute vesicular bodies are dispersed throughout the gland, or even small cysts may be discovered in several parts of it. These contain a serous fluid in one instance; and in another, a little mucoid, greasy material.

When examined with the assistance of the microscope, the fibre-element of the organ does not exhibit any appreciable change. I mean to imply, by "fibre-element," the areolar or uniting tissue. The secreting portion of the gland-tissue offers most striking deviations from a healthy condition. The acini, which are remarkably distinct and rigid, clearly exhibit, when torn up, the cæcal termination of the ducts, closely packed together and opaque. Dilute acetic acid, being added to the preparation, often renders the observation of the object more satisfactory. These cæcal terminations of the ducts are crowded with epithelial cells, and they appear to be filled almost, if we may so say, to bursting point. Such, then, may be the morbid state of the gland-tissue of the entire breast, or of one or more of its lobes. The abnormal condition seems to depend upon an excited action in the terminal cæci, inducing an excessive production of epithelium which does not escape by the ducts. I have never been able to satisfy myself, from ocular demonstration, of the existence of any disease in the areolar tissue, but I think that further observation may prove that there is.

1. When the entire gland is involved, two very distinct conditions are exhibited by the mamma, regarded, that is, *en masse*. In one case the gland is small, the entire organ is closely fixed against the chest, the nipple looks more like a wart, and the areolar glands are very distinct. When grasped between the fingers from side to side it feels like a disc of condensed, rigid tissue, and it can be drawn forwards from the chest, and the fingers placed behind its borders.

In the other case, the breast is remarkably large and pendulous; attached to the thorax by a rather narrow neck, it is of a flask-like or pear shape. When supported on the hand it is extremely heavy; and, when grasped, the lobes are distinctly perceptible, and the entire mass

is very hard. The nipple is usually large, dark, and prominent, unless congenitally defective. The areola is expanded, of a dark brown tint, and the glands therein are generally well developed.

II. If lobular indurations exist, the affected breast is perhaps rather larger than the healthy one. In one, two, or more quarters of the breast, lumps or knots, or, as these indurations are often termed, "tumours," are easily felt, and, perhaps, even the entire organ is more firm than when in a healthy condition. But it is to the existence of one or more indurated lobes that I would especially direct attention, in order that this complaint may be duly recognised, and not mixed up, as it undoubtedly too often is, with real tumours of one kind or the other.

It should be carefully borne in mind that the disease which we are now describing is a morbid state of a part of the gland, not a new structure, or new growth, and consequently not a tumour in the modern and more correct acceptation of the term. It is, in truth, a disease *of* and not merely *in* the gland tissue. The importance of this consideration becomes at once apparent, when such cases as these come before us and demand surgical treatment.

Age at which Induration occurs.—This morbid condition of the gland-tissue occurs in females between 25 and 40 years of age. It is much more frequently met with in single than in married women, and in the sterile, rather than in those who are prolific, and have suckled their children.

General Health, and especially the Catamenia.—The general health is in most cases disturbed, but the functions of the generative organs manifest the greatest amount of derangement. The catamenia appear irregularly, sometimes they are scanty, in other cases too abundant. A total cessation of the menstrual discharge occasionally exists, and, if it should show itself, it is attended with intense pain and great constitutional disturbance. I have seen this disease in the right breast and not in the left, during the early months of pregnancy. The case occurred in a woman who married about 30, and who, before this, had been always subject to considerable derangement of the catamenia, and sympathetic constitutional disturbance.

External appearance of the Breast.—The local signs, as manifested by the aspect of the organ, are not very prominently marked. There is usually a somewhat tense, full appearance of the skin, with a rather conical outline in the region of the nipple and areola, when the whole organ is affected; and if one or more lobes only are diseased, slight irregularities or elevations may indicate their site. There is never any inflammatory redness present.

Manipular Indications.—The chief manifestation from touch is extreme firmness of the substance of the breast, rather than hardness, together with its disc-like figure beneath the skin, to which it feels loosely attached, and the capability that exists of drawing it forwards *en masse* from its posterior connections. Single lobes feel remarkably hard, which perhaps arises from a comparison of the softer parts of the breast; and, doubtless, by the sense of touch alone, they are scarcely distinguishable from genuine "tumours." But the remarkable and characteristic isolation observable in most cases of glandular mammary

tumours is absent, for the induration in the cases under consideration blends with the surrounding gland-tissue. From tubercles of carcinoma, the induration differs in being for ever confined to the tissue of the gland itself; never, should the lump increase, does it involve or become adherent to the skin, nor does it influence the form and outline of the nipple during any part of its existence.

One or both Breasts affected.—Both the mammæ are sometimes affected with general or lobular induration, and at the same time. In the majority of cases, however, it is much more common to find that one alone has the priority; or that, as the one first affected resumes its normal state, the other assumes a morbid condition.

Sensations of the Patient.—Women, the subject of this disease, are often compelled to endure great local suffering; and from this cause it has been no doubt generally regarded as a variety of the neuralgic affections of the breast. In some particulars, doubtless, these affections are closely allied; but as, in a practical point of view, the recognition of these indurations is so highly important, I do not consider that mere pain alone is sufficient to characterise the complaint. The pain is very often most intense; in some instances constant, in others intermittent; and it is usually most severe before the catamenial period. Pressure with the point of the finger over the intercostal foramina, through which issue the anterior cutaneous filaments of the intercostal nerves, causes great pain; and in lobular induration this is a very important point in establishing a correct diagnosis. The pain is not always confined to the mamma, but extends along the skin to the back, and along the inside of the arm.

Diagnosis.—The facts before stated are sufficiently marked and peculiar to enable the surgeon to distinguish between this disease of the glandular tissue, and those tumours with which it is most likely to be confused; such as, for example, the "mammary glandular," the so-called "fibrous tumours," or "fibro-plastic," and "scirrhous." The first are not generally very painful, and if they should be, they are, at the same time, remarkably moveable, and but loosely attached to the breast. The second but rarely occur in the mamma, and in the cases which I have seen they were painless. The last, in its early stage, is singularly free from pain, so much so, indeed, that this peculiarity is one of its most distinguishing features.

Prognosis.—With sufficient evidence to determine that the disease under consideration is of no greater importance than would attach to induration of the gland-tissue, a favorable prognosis may be unhesitatingly pronounced.

Treatment.—The constitutional treatment consists in the administration of such medicines as improve the general health and by this means restore the generative organs to a healthy performance of their functions. Aperients, tonics, wholesome food, change of air, and bodily exercise, perhaps the use of the shower-bath, or sea-bathing, and the withdrawal from all circumstances tending to excitement of the nervous system, will be found of service. Liquor potassæ, given internally, is sometimes also useful.

The local treatment must be regulated by the condition of the individual. Occasionally, a few leeches afford almost immediate, although

temporary relief from the pain. The application of the extract of belladonna and soap cerate, in equal parts spread upon lint, and supporting the gland with strips of plaster and a bandage, is also very useful. I have likewise known the placing a piece of thin gutta percha over the induration to lead to its absorption, as well as the application of the ceratum hydrargyri compositum spread upon lint. In some cases, the pain and sufferings are so intense, and they resist so obstinately all attempts to assuage them, that the patient is induced to submit to the removal of the breast. The operation has been performed under my observation in three or four instances, and success attended it.

Art. 112.—*On the Operation of Tracheotomy.*
By (1) Dr. Edwards, of Cheltenham; and (2) M. Chassaignac.

(*Lancet*, May 28, 1853; and *Gaz. Méd. de Paris*, July 16, 1853.)

Both these gentlemen recommend that the operation should be performed above the isthmus of the thyroid gland. They employ a director terminating in a hook, and grooved on its under surface. This instrument is hooked under the lower edge of the cricoid cartilage, and when the parts are properly fixed, a bistoury is passed along the groove, and the trachea transfixed and divided to the requisite extent. M. Chassaignac makes a small puncture, and subsequently stretches this with a dilator. Both operations are substantially the same, and Dr. Edwards seems to have the priority, for his communication was published in the Lancet on the 28th of May, and M. Chassaignac's notice to the Academy of Medicine at Paris was not read until the 12th of July.

Art. 113.—*Case of Excision of the Scapula.*
By Professor Gross, of Louisville.

(*American Quarterly Journal of Medicine*, April, 1853.)

The disease in this case was an osteo-sarcomatous mass, measuring fifteen inches in all directions, implicating the whole of the scapula, growing rapidly, and wearing down the strength of the patient by the pain it occasioned. The patient was a slim and delicate man, aged 40.

A full dose of chloroform having been administered, an incision, sixteen inches in length, was made from the superior angle of the scapula to the inferior extremity of the tumour, its direction being obliquely downwards and inwards. Another, beginning about five inches below the upper end of the first, and terminating about the same distance from its lower end, was then carried, in a curvilinear direction, so as to include the small oval flap of skin with the tubercle, previously alluded to, in its centre. The integuments, which were exceedingly dense and thick, especially at the superior part of the tumour, were then dissected off from the surface of the morbid growth, first towards the spine, and then towards the axilla. Having detached the elevator and trapezius muscles, I sawed through the acromion process of the scapula just behind the clavicle, and then divided the broad dorsal and anterior serrated muscles. Carrying my fingers next underneath the tumour, and raising it up, I severed its connections with the ribs, cut the deltoid and

other muscles of the arm, sawed the neck of the scapula, and thus removed the entire mass with comparatively little difficulty.

Several vessels were divided in the early stage of the operation, at the posterior and middle part of the tumour; but these were easily controlled by the fingers of my assistants. Several arteries near the neck of the bone bled so freely as to demand the ligature after the removal of the morbid growth. About twenty-four ounces of blood were lost. The patient became very faint towards the close of the operation, and cordials were necessary to revive him. The immense wound thus produced was dressed with three interrupted sutures and adhesive straps, and supported by a compress and a broad body bandage. The patient was placed in bed, and immediately took one grain of morphia. At four o'clock in the afternoon there was a slight oozing of blood from the wound, and the patient complained of the tightness of the dressings, which however, were found to be sufficiently loose. He had taken half a grain more of morphia, had slept somewhat, and was free from pain; the pulse was 76, and of good volume; and there was no nausea, urgent thirst, or restlessness. On the following evening, September 27, the patient having slight traumatic fever, was ordered ten grains of calomel, with one of opium and one of ipecacuanha, to be followed in the morning by castor oil.

No untoward symptoms of any kind occurred after the operation; nearly the whole wound healed by the first intention; and at the end of three weeks, my patient went home with every prospect of a long and prosperous life. In descending the Ohio River, however, which was at that time exceedingly low, and which caused his detention upon the way for nearly a fortnight, he took a severe cold, from the effects of which ne never completely recovered. A harassing cough set in, accompanied by all the symptoms of pleuro-pneumonia, which were followed, about the middle of December, by those of hectic fever, under which he gradually sank, three months after the operation. There was no post-mortem examination.

Art. 114.—*On the mode of evacuating Matter, or of removing Foreign Bodies from the Pleural Cavity.* By G. J. Guthrie, f.r.s.

(*Lancet*, April 9, 1853.)

Mr. Guthrie, like M. Baudens, prefers the operation by incision to that by the trocar. It is necessary to make the opening as low as possible, namely, at the point where, during expiration, the diaphragm is closely applied to the inner side of the chest, and where, therefore, the trocar would be very likely to transfix the diaphragm, and enter the abdomen—an accident which has often happened. This is the reason for preferring the knife. In using the knife, Mr. Guthrie insists upon the desirability of choosing the moment of inspiration for completing the incision, for at this time the diaphragm is furthest from the *pleura costalis*.

"The eleventh and twelfth ribs having been distinctly traced, and the obliquity of their descent from the spine having been clearly made out, the patient ought, if possible, to be placed on a stool, with the upper part of the chest supported by a pillow on a table before him. An incision should then be made, over the intercostal space between these ribs, three inches long, and slightly curved through the integuments down to the latissimus dorsi muscle; and as the mass of long spinal muscles is usually three inches in width, and can in general be

seen, the incision should commence two inches from, but between the spinous processes of the eleventh and twelfth vertebræ, and be continued obliquely or diagonally downwards in the course of the interspace between these ribs. The latissimus dorsi and the serratus posticus inferior muscles being divided at the upper part where they cover the longissimus dorsi, or the long spinal muscular mass alluded to, its edge becomes apparent, and from this point the latissimus and the serratus are to be further divided downwards. The external intercostal muscle being thus exposed, its fibres should be scratched through or separated, in the middle of the interspace between the ribs, which can now be seen as well as felt. A director should be introduced below the muscle, on which it may be carefully cut through, as well as any fibres of the internal intercostal muscle, which may extend as far as the wound thus made. The pleura will be then exposed, and if the cavity of the chest contain fluid in any quantity, it can scarcely fail to project in such a manner as to convey to the finger the assurance of its being beneath. An opening may now be carefully made into it, at the upper part of the incision close to the external vertical fibres of the spinal mass of muscles, *at the moment of inspiration*, and on the existence of fluid being ascertained by its discharge, the opening should be enlarged, a director having been previously introduced under the pleura, as far as may be thought necessary for the admission of the finger, or any instrument which may be required.

The patient should be desired to draw a full breath at the moment of puncturing the pleura, in order that the diaphragm may descend as low as possible; for if there should not be any fluid in the chest, the diaphragm in ascending during expiration, might be applied to the inside of the pleura lining the chest as high even as the fifth rib, counting from above, and might easily be divided with the pleura, if great care were not taken at this part of operation; or if a trocar or canula were incautiously thrust in at such a moment. Whenever the smallest instrument of this kind is used, even in an explorative operation, it should only be introduced during the process of inspiration.

In all cases of wounds of the chest, in which auscultation points out the presence of a ball rolling loose on the diaphragm, as it will do immediately after the receipt of the injury, this operation should be performed for its removal, and may save the life of the sufferer. At a later period the presence of a foreign body perhaps can only be known by the sounds or defect of sounds which may be observed at the back part of the chest, in which the ball or foreign bodies lodge or become enveloped by matters confining them in that situation."

ART. 115.—*On Wounds of the Diaphragm.* By G. I. GUTHRIE, F.R.S.

(*Lancet*, April 16, 1853.)

Wounds of the Diaphragm were known to the older surgeons, from the time of Paré, who were aware that these wounds were not immediately, although generally, mortal. They knew that the viscera of the abdomen did sometimes pass through such wounds into the cavity of the chest, but they did not know that a wound of the diaphragm

never closes except under rare and particular circumstances; that it remains open during the rest of the life of the sufferer, ready at all times to give rise to a hernia, which may become strangulated and destroy life, unless relieved by an operation as yet unperformed, but to which attention is especially directed.

A soldier of the 29th Regiment, was wounded at the battle of Talavera, and died in four days after the receipt of the ball, which went through the chest into the liver. I found on examining the body, an opening in the central part of the diaphragm, of an oval shape, the edges smoothing off as if they were inclined to become round; this opening was nearly two inches long, evidently ready to allow either the stomach or intestines to pass through on any exertion.

Capt. Prevost, aide-de-camp to Sir E. Pakenham, was wounded by a musket-ball, on the 27th Sept. 1811, on the heights of Saca Parte. It penetrated the chest from behind, splintering the ninth and tenth ribs of the left side and made its exit a little below and to the right of the xiphoid cartilage. A good deal of blood was lost from the posterior wound, but he did not spit any up. He was carried to Alfaiates, and there he threw up a small quantity of bloody matter by vomiting. The posterior wound was enlarged, and continued to discharge some blood, the intercostal artery being in all probability wounded. Sixteen ounces of blood were taken from the arm, giving great relief, and the bowels were opened by the sulphate of magnesia.

Sept. 29th.—Bleeding to eighteen ounces; and on the 30th, bled again to thirty-two ounces, from which great relief was obtained; he fainted, however, on making a trifling exertion to relieve his bowels.

Oct. 1st.—Accession of symptoms as yesterday, and relieved by bleeding in a similar manner; bowels open.

3d.—The inflammatory symptoms occurred this morning, and were again removed by the abstraction of sixteen ounces of blood. Beef-tea.

5th.—Passed a sleepless night, and was evidently suffering from considerable internal mischief; wandered occasionally; pulse quick, 120, and small; felt very weak and desponding. A little light red wine given, with beef-tea and bread; opium night and morning.

6th and 7th.—Much the same; pulse always quick, with much general irritability.

15th.—The wounds discharged considerably, particularly the posterior one; has a little cough; pulse continues very quick; spasms of the diaphragm troubled him for the first time, and gave great pain and uneasiness; they were relieved by opium in large and repeated doses.

On the 18th, the spasmodic affection of the diaphragm and the pain returned with great violence, so as to threaten his dissolution, which took place on the 20th.

On examination, I found that the ball had passed through the under part of the inferior lobe of the left lung, and through the pericardium, under the heart, through the tendinous part of the diaphragm, and into the liver before it made its exit. The wound in the lung was suppurating; the matter and fluid from the cavity of the chest had a free discharge by the shot-hole; the edges of the wound in the diaphragm were smooth, as if cicatrized, leaving between them an elliptical opening an inch long. The injury to the liver was through the substance of the anterior part of its right lobe; the matter having a free discharge, and generally slightly yellow, as if tinged with bile in small quantity. The skin did not obtain a yellowish tinge, neither was the conjunctiva discoloured.

A soldier of the 23d Regiment was wounded at the same affair, by a musket-ball, on the right side, which fractured the sixth rib, from three to four inches from the sternum, and passed out behind, between the ninth and tenth ribs, near the spine. The rib being fractured, the splinters were removed after an enlargement of the wound by incision, when the opening into the cavity of the chest was manifest, air being discharged freely from it. The shock in the first instance was great; but after a time reaction took place, and he lost a considerable quantity of blood in six bleedings during the first sixty hours. The discharge, at first serous and bloody, gradually became purulent, and the occurrence of jaundice showed that the diaphragm and liver had in all probability been injured. Under the administration of calomel, antimony, and opium, this system was gradually disappearing, when I left him to rejoin the army. He was sent to the rear at the end of ten weeks, nearly well.

On the day preceding the battle of Fuentes d'Onor, in 1811, Sergeant Barry was wounded in the chest. The ball entered close to the nipple of the left breast, and passed out at the back, between the eighth and ninth ribs. The anterior opening of the wound soon healed, but the posterior one did not do so for a considerable period, when he became affected by such severe cough, with expectoration, that his medical attendant deemed it proper to reopen it. The symptoms were relieved, and portions of his shirt and jacket were discharged. After this his health improved so rapidly as to enable him soon to join his corps. The wound in the back repeatedly opened and healed—generally at intervals of twelve or fourteen months; but for five or six years it ceased to do so. His appetite was small and delicate; flatulency, &c., were much complained of; and if the stomach at any time happened to be overloaded, vomiting occurred. He died of mortification of the left leg, Jan. 4th, 1833.

On examination, the whole of the stomach, and the greater part of the transverse arch of the colon, were found in the left cavity of the chest, having passed through an opening in the diaphragm extending about three inches in a transverse direction, near the centre of the dorsal attachments of that muscle. The peritonæum lining the diaphragm was firmly attached to the parts passing through it.

The wound in this instance was through *muscular*, not tendinous, parts. The preparation is in the museum at Chatham, No. 63, Class 6.

A French soldier was admitted into the Gendarmerie Hospital at Brussels, in consequence of a wound from a musket-ball, at the battle of Waterloo, which entered behind between the eighth and ninth ribs, near the spine, and lodged internally. After many severe symptoms and much suffering, he died on the 1st of December, worn out by the discharge, which often amounted to a pint a day, and for the free exit of which the external wound had been early enlarged. On examination, the lung was slightly ulcerated on its surface, opposite to where the ball had entered, and a little matter contained in a sac had formed between it and the wall of the chest. That the ball had gone on was proved from the fact of there being an opening in the tendinous part of the diaphragm, through which a portion of the stomach had passed into the chest, and from which it was easily withdrawn. The ball could not be found in the abdomen; in all probability, it had passed into the intestine, and had been discharged per anum, as has happened in other instances.

James Wilkie, 12th Light Dragoons, æt. 34, was suddenly attacked, at four p.m. of the 6th September, 1815, with violent pain in the umbilical and epigastric regions, accompanied with nausea and great irritability of stomach; pulse small, rapid, and regular. Assistant-surgeon Egan visited him after the attack, bled him freely, and caused the abdomen to be fomented with hot

water; a large blister was applied to the seat of pain, an ounce of castor-oil was given, and emollient and laxative clysters were occasionally administered. At night the symptoms abated, and he slept about three hours. The next morning his countenance exhibited that appearance of haggardness and anxiety, which have always been alarming indications; pulse feeble and rapid; the pain severe; at noon he vomited from two to three ounces of black, fetid blood, in a fluid state; pulse became very feeble. At four p.m. the pains increased, he ejected from his stomach from four to six ounces of dark, fluid blood, that had less fetor; and at six in the same evening he expired in pain.

This man, on the 18th of June, at Waterloo, received a punctured wound from a sword, which entered about an inch below the inferior angle of the scapula of the left side, penetrating the thorax, appeared to have passed through the diaphragm, the point of the weapon coming out on the opposite side of the chest, between the first and second false ribs. The wounds were quite healed, and he apparently enjoyed good health, when he arrived from Brussels, in August.

Appearances on Dissection.—On opening the abdomen, the whole of the intestines, with the exception of the duodenum, were in a high state of inflammation. On tracing the duodenum upwards, a very small portion of the stomach was found in its natural situation. On opening the thorax, a large spherical tumour was seen in its left cavity, containing two quarts or upwards of black, fluid, fetid blood. This sac was soon seen to be the stomach, which had protruded through the aperture in the diaphragm, by which it was so firmly embraced as to render the communication between that portion of the stomach in the thorax and that in the abdomen impervious to each other. The hernial sac and its contents were supported by the diaphragm. The left lung exhibited a shrivelled, contracted appearance, as if its function had been impeded by the pressure of the sac and its containing fluid. The cicatrix and course of the sword were well marked. The cardiac and pyloric orifices of the stomach were in the natural cavity.

S. Fletcher, 31st Regiment, wounded at Sobraon, on the 10th of February, 1846; died at Chatham, February, 1847. On opening the thorax, the greater part of the stomach, a foot and a half of the transverse arch of the colon, with the omentum attached, were found in the left pleural cavity. There was an opening in the diaphragm, with a rounded margin, two inches and a half in diameter, two inches to the left of the œsophagus. The stomach, colon, and omentum adhered firmly, at one part, to the pleura covering the diaphragm and lining the ribs, to the extent of a few inches, although otherwise loose and free in the cavity. The parts in the aperture of the diaphragm were free from adhesions, and the finger passed easily through the opening from below upwards. Two cicatrices were to be seen on the left side of the chest—one between the eleventh and twelfth ribs, close to the transverse processes of the vertebræ; the other between the eighth and ninth ribs, three inches and a half from the cartilages. The preparation is in the museum at Chatham.

These cases confirm the fact I was the first to point out—that wounds of the diaphragm, whether in the muscular or the tendinous part, never unite, but remain with their edges separated, ready for the transmission between them of any of the loose viscera of the abdomen which may receive an impulse in that direction. That parts of these viscera do pass upwards and back again, cannot be doubted; and it is probable that incarceration may take place for a length of time before strangulation occurs from some sudden and distending impulse giving rise to it.

When the solid viscera of the abdomen are injured as well as the diaphragm

against which they are applied in their natural situation, the wound may sometimes be considered a fortunate one; for the liver or spleen may adhere to the opening in the diaphragm, and fill up the space between its edges.

A wound of the diaphragm may be suspected from the course of the ball, particularly when it passes across the chest below the true ribs. It is necessarily accompanied by an opening into the cavity of the abdomen, and is by so much the more dangerous. The symptoms will partake of an injury to both, although they are principally referable to that of the chest, and are those of intense inflammation, accompanied by a difficulty of breathing, which in the case of Mr. Drummond, was a peculiar sort of jerk; in that of Captain Prevost it was more spasmodic. The risus sardonicus, hiccough, pain on the top of the shoulder, and loss of power of the arm, which were all more or less present, in all probability depended on some larger fibrils of the phrenic nerve being wounded. The treatment should be antiphlogistic, with a free external opening for the discharge of matter. The accession of jaundice shows an injury to the liver; vomiting of blood, or its passage per anum, indicate a wound of the stomach or intestines.

When the patient recovers, the probability of a hernia taking place in the chest, through the diaphragm, should be explained to him; and if any reason should exist for the belief in its having occurred, he should be doubly cautious, as to eating and drinking in small quantities only, and remaining in the erect position for some time after each meal; he should carefully avoid a stooping posture, and all muscular exertion or straining. If symptoms of strangulation should come on, an opening made into the abdomen would appear to offer the only chance for life. The hernia may perhaps be drawn back into its place in the abdomen; but if firm adhesions have formed between the protruded part and the edges of the opening in the diaphragm, the case must be treated as one of adherent strangulated rupture in any other part, by a simple division of the stricture in the most convenient situation. The opening should be a straight incision through the wall of the abdomen, large enough to admit the hand, immediately over the part where the diaphragm is supposed to be injured. It should be closed by a continuous suture through the skin.

Art. 116.—*A Case of Perforation of the Œsophagus.* By Thomas Salter, f.l.s., of Poole.

(*Lancet*, April 30, 1853.)

This case was brought before the Medical and Chirurgical Society of London during last session.

This patient, æt. 42, clerk in a merchant's office, a man of intemperate habits and a spirit-drinker, suffered at various times from dyspeptic symptoms, accompanied by a tendency to constipation. Subsequently he expectorated a quantity of clear mucus tinged with blood. Then after an attack, supposed to be mild bronchitis, he became much reduced in strength; difficulty of swallowing came on, and after the food had passed the pharynx, it was shortly ejected with force, covered with mucus from the trachea. He died, and upon examination there was found, answering to the diagnosis, an ulcer of the œsophagus without induration opening into the left bronchus.

A similar case was mentioned to the author by Dr. Armitage, who had witnessed it in the Charité Hospital, Berlin.

Mr. Salter concluded with some remarks upon the danger of passing

bougies in such cases where there was a possibility of the walls of the œsophagus being thinned by disease. Such practice might hasten the event, which in the present case immediately led to the patient's death.

Art. 117.—*On Wounds of the Intestine.*
By G. J. Guthrie, Esq., F.R.S.

(*Lancet*, April 30, 1853.)

When an incised wound in the intestine is not supposed to exceed a third of an inch in length, no interference should take place; for the nature and extent of the injury cannot always be ascertained without the committal of a greater mischief than the injury itself. When the wound in the external parts has been made by an instrument not larger than one third, or from that to half an inch in width, no attempt to probe or to meddle with the wound, for the purpose of examining the intestine, should be permitted. When the external wound has been made by a somewhat broader and longer instrument, it does not necessarily follow that the intestine should be wounded to an equal extent; unless it protrude, or the contents of the bowel be discharged through the wound, the surgeon will not be warranted in enlarging the wound in the first instance, to see what mischief has been done. It may be argued that a wound four inches long has been proved to be oftentimes as little dangerous as a wound one inch in length; yet most people would prefer having the smaller wound, unless it could be believed that the intestine was injured to a considerable extent. Few surgeons even then would like to enlarge the wound to ascertain the fact, unless some considerable bleeding, or a discharge of fæcal matter, pointed out the necessity for such an operation.

If the first two or three hours have passed away, and the pain and firm but not tympanitic swelling in the belly, as well as the discharge from the wounds indicate the commencement of effusion from the bowel, or an extravasation of blood, an enlargement of the opening alone can save the life of the patient. The external wound should be enlarged, the effused matter sponged up with a soft moist sponge, and the bowel or artery secured by suture. When a penetrating wound, which may have injured the intestine, has been closed by suture, and does not do well, increasing symptoms of the inflammation of the abdominal cavity being accompanied by general tenderness of that part, with a decided swelling underneath the wound, indicating effusion beneath, the best chance for life will be given by re-opening the wound. It is a point in surgery, which a surgeon should contemplate in all its bearings. The proceeding is simple, little dangerous, and under such circumstances can do no harm.

When the wounded bowel protrudes, or the external opening is sufficiently large to enable the surgeon to see or feel the injury by the introduction of his finger, there should be no difficulty as to the mode of proceeding. A puncture or cut, which is filled up by the mucous coat, so as to be apparently impervious to air, does not demand a ligature.

An opening which does not appear to be so well filled up as to prevent air and fluids from passing through it, as such wound cannot usually be less than two lines in length, should be treated by suture. When the opening is small,

a tenaculum may be pushed through both the cut edges, and a small silk ligature passed around, below the tenaculum, so as to include the opening in a circle, a mode of proceeding I have adopted with success in wounds of the internal jugular vein, without impairing its continuity; or the opening may be closed by one, two, or more continuous stitches, made with a very fine needle and silk thread, cut off in both methods close to the bowel, the removal of which from the immediate vicinity of the external wound is little to be apprehended under favorable circumstances. The threads or sutures will be carried into the cavity of the bowel, as has been already stated, if the person survive; and the external part of the wounded bowel will either adhere to the abdominal peritonæum, or to one or other of the neighbouring parts.

When the intestine is more largely injured, in a longitudinal or transverse direction, or is completely divided as far as, or beyond the mesentery, the continuous suture is absolutely necesssary.

When the abdomen is penetrated, and considerable bleeding takes place, it is necessary to look for the wounded vessel. When the hæmorrhage comes from one of the mesenteric arteries, or from the epigastric, the wound is to be enlarged until the bleeding artery is exposed, when ligatures are to be placed on its divided ends, if they both bleed. I have seen the epigastric artery tied several times with success.

A Portuguese caçador on picquet was wounded at the second siege of Badajos, in a sally made by some French cavalry. He had three or four trifling cuts on the head and shoulders, and one across the lower part of the belly, on the right side. He bled profusely, and when brought to me had lost a considerable quantity of blood, which came through a small wound made by the point of a sabre. This wound I enlarged until the wounded but undivided artery became visible; upon this two ligatures were placed, and the external wound was sewed up. The peritoneum was opened to a small extent, but the bowel did not protrude, and the patient (not being an Englishman, and not, therefore, so liable to inflammation) recovered after being sent to Elvas.

A soldier of the same regiment, cut down at the same time, died as soon as he was brought into camp, having been severely wounded in the chest and the abdomen. He was said to have died from hæmorrhage, from a wound in the belly, two inches in length, made by one of the long-pointed swords of the French dragoons. I had the curiosity to enlarge the wound, and found one of the small intestines had been cut half across, another part injured, and that the blood had come from an artery which had been opened by the point of the sword in going through the mesentery, which wound had caused his death.

The recollection of these and of other nearly similar cases causes me to say that when hæmorrhage takes place from within the abdomen, the wound should be enlarged; and that if an artery in the mesentery, or in any other place which can be got at, should be found bleeding, a very fine silk ligature should be placed, if possible, on each of its divided extremities, and cut off close to the knot, the external wound being afterwards accurately closed. This is a point of practice to which future attention is directed.

When a musket-ball penetrates the cavity of the belly, it may pass across in any direction, without injuring the intestines or solid viscera. It usually does injure one or the other, and it has been known to lodge without doing much mischief. The symptoms are generally indicated by the parts injured, although in all the general depression and anxiety are remarkable; their continuance marks the extent, if not the nature of the mischief.

Art. 118.—*On a Case of Obturator Hernia.*
By Ernest P. Wilkins, Esq., m.r.c.s.

(*Lancet*, April 23, 1853.)

Mrs. M—, æt. 70, a spare and debilitated subject, was seized with pain in the abdomen and vomiting during the night of April the 5th, having been in good health for some time previously, with the exception of occasional constipation and dyspepsia, the bowels for days before the attack acting naturally. I was called in on the 6th, and found her suffering from colicky pains and desire to evacuate the bowels. I prescribed aperients, enemata, &c., without effect. The symptoms increased, and were combated by the usual treatment, but all of no avail. She died on the 17th.

Post-mortem examination, on the 18th, disclosed an obturator hernia, the exact resemblance to a case of Mr. Fergusson's in King's College Museum, delineated in Druitt's 'Vade-Mecum,' p. 438 (third edition). I have preserved the upper part of the ileum, a portion of which, about the size of the top of the fore-finger, was strangulated by the ligament of the obturator foramen. I also possess the sac. The bowels above the strangulation were more or less of a claret-colour, especially near the seat of strangulation; the veins of the mesentery, &c., much congested; the ileum, below the strangulation, dwindled to the thickness of a tobacco-pipe; the colon contained a few scybala.

Art. 119.—*A Case of Scirrhus of the Prostate Gland.*
By John Adams, Surgeon to the London Hospital.

(*Lancet*, April 23, 1853.)

This instance of a very rare disease was brought before the Medical and Chirurgical Society in April last. Fungus hæmatodes of the prostate is not uncommon, but scirrhus of that gland is of great rarity.

A gentleman, æt. 59, was suddenly seized with paralytic symptoms, which seemed to arise from derangement of the circulation. During his recovery he experienced frequent desire to pass urine, and required the constant use of the catheter. The instrument passed over a hard and rough surface, and induration and enlargement of the prostate were felt upon examination per rectum. Pains about the pelvis ensued; the saphena vein became thickened; the thighs were drawn up upon the trunk; and he died three years after the occurrence of the first symptoms.

Examination of the body.—The lumbar glands were enlarged by the infiltration of scirrhus; so also the lymphatic glands of the pelvis. There were cysts containing pus near the symphysis pubis. The prostate gland was enlarged to nearly twice its natural size; an ovoid mass, *distinctly scirrhous,* the size of a small nut, projected into the bladder from its upper surface. The left lobe was occupied by a long scirrhous mass; the right lobe appeared healthy. The left vesicula seminalis was diminished in size, and the prostatic plexus of veins con-

tained phlebolithes. The left kidney was enlarged, and contained much sabulous matter.

ART. 120.—*On the Excision of the Prostatic Prominences which frequently obstruct the flow of Urine.* By M. LEROY D'ETOILLES.

(*Gaz. Méd. de Paris*, July 2, 1853.)

In a memoir recently read before the Academy of Sciences at Paris, M. Leroy d'Etoilles recapitulated the several points in connection with prostatic disease upon which he has insisted during the last thirty years, and dwelt particularly upon the fact of the existence of prostatic prominences which frequently obstruct the flow of urine, and give rise to a state of things which is frequently mistaken for paralysis of the bladder. At the same time he exhibited an improved instrument for the removal of these prominences.

The instrument is a flattened catheter, in which a deeply notched hole is cut near its extremity. Within this is a moveable tube, furnished with a pen-shaped, gouge-like blade at a point corresponding to the notched hole. The instrument is introduced into the urethra with the notch open, and then turned about until the prostatic prominence is in the notch, when the gouge-blade is slid down across the notch, and the enclosed portion guillotined. This process is repeated as often as necessary.

M. Leroy d'Etoilles relates several cases in which the cure was brought about by this means.

ART. 121.—*A new Method of performing Lithotomy—Recto-urethral.* By Mr. LLOYD, Surgeon to St. Bartholomew's Hospital.

(*Medical Times and Gazette*, Aug. 6, 1853.)

The following remarks are not by Mr. Lloyd, but by the reporter of hospital proceedings to the 'Medical Times and Gazette.' They may be taken, however, as representing the substance of some clinical remarks which Mr. Lloyd made upon three cases in which he has practised the operation.

From the consideration of the fact, that death, after the usual lateral method, is commonly caused by one or more of three causes, viz. hæmorrhage, peritonitis, or unhealthy inflammation of the cellular tissue around the neck of the bladder and lower part of the rectum, Mr. Lloyd was led to believe, that by a modification of the methods known as lithectasy, and the recto-vesical operation, the risks involved under these several heads might be, to a very great extent, avoided. The modification which he proposed was, to perform the first half of the operation as if for recto-vesical lithotomy, and the second after the manner done in lithectasy, or that by dilatation of the urethra. He determined to make an incision from the median line of the perinæum into the rectum, dividing the posterior three-fourths of an inch of the former structure, and about the same length of the lowest part of the front wall of the rectum, thus including the anterior commissure of the sphincter ani and the fascia and cellular tissue contained in the recto-perineal angle. The next step was to consist in dissecting upwards from the wound just

made, still keeping in the median line, to the membranous urethra; and having entered the groove in the staff, and slit up the whole length of that part of the canal, the prostatic portion was to be dilated sufficiently to permit of the extraction of the stone, *without any incision in either prostate or bladder.* By keeping strictly to the median line, there could be no risk of wounding any important artery of either natural or irregular distribution, since none but the inosculating capillaries and small twigs from the opposite halves of the body are there found. Should any of the hæmorrhoidal branches, which perhaps form an exception to this remark, be wounded, their ligature, in an open and comparatively superficial wound, like the one described, would be a matter of perfect ease. If an objection were made, that there was risk of wounding the bulb, the remark might be repeated by way of answer, since it has been proved, that it is not from injury to the bulb itself, but to the artery of the bulb, that dangerous bleeding is to be apprehended. Respecting inflammation of the cellular tissue between the bladder and rectum, Mr. Lloyd believed, that by making a directly depending wound, freely dividing the sphincter ani, and the angle formed by the rectum and perinæum, the possibility of the occurrence of its cause, viz., infiltration of urine, would be almost entirely removed; in fact, as a preventive measure, the exact proceeding would have been adopted which Sir Benjamin Brodie has recommended with some confidence, and practised with success, for the relief of this condition after its occurrence. That the new operation would be attended with but little risk of exciting peritonitis, Mr. Lloyd thought was evident from the consideration of the circumstances, that urinary infiltration would be prevented, that the wound would be made entirely from below, and at a considerable distance from the vesical layers of that membrane, and that neither the bladder nor the prostate would be injured. Having thus satisfied himself of the theoretic advantages which would attend his plan, Mr. Lloyd next proceeded by experiments on the dead subject to demonstrate its practicability. In one case in which it was tried (an adult), the necessary incisions having been made, the prostatic urethra was found to dilate so readily, that it was remarked, that a turkey's egg might have been extracted, yet, on dissection afterwards, it was proved that the gland had not been cut. By this result the most apparent objection to the plan, namely, that the structure of the prostate was of too unyielding a nature to permit of the extraction of a stone, was got rid of, at least as far as calculi of ordinary size are concerned. To the suggestion that wounds connecting the bladder and rectum were not prone to heal, but often left fistulæ, Mr. Lloyd replied, that in the proposed operation there would be only a connection between the membranous urethra and the rectum; that it was notorious that wounds of the rectum, attended even with complete division of its sphincter, usually closed favorably, as also openings from the perinæum to the membranous urethra (as in the perineal section of strictures), and stated that he could see no reason why a combination of these two conditions should not heal just as well as either of them singly. In addition, also, to the preceding advantages, it was thought, that the bladder would be much more easily reached in the median line, and the stone extracted with greater facility through a direct than a lateral incision.

Art. 122.—*On an Instrument for Washing-out the Bladder after the Operation of Lithotrity.* By M. Leroy d'Etoilles.

(*Gaz. Méd de Paris*, April 23, 1853.)

In a note addressed to the Academy of Medicine at Paris in April

last, M. Leroy d'Etoilles describes an instrument of this kind. It is a modification of the instruments of MM. Hales and Cloquet. It consists of a double catheter, one tube being for the water entering the bladder, and the other for the water escaping from the bladder,—the former tube being much smaller than the latter. The opening through which the fluid flows from the bladder is placed inferiorly, and is made as large as possible, so as to facilitate the escape of the earthy fragments. The water is propelled by a syringe, fitted on to the mouth of the entrance tube.

Art. 123.—*Bichromate of Potass in Syphilis.* By Professor Heyfelder, of Erlangen.

(*Deutche Klinik*, No. 36, 1852.)

M. Heyfelder relates several cases of secondary syphilis, in which he has tried bichromate of potass, and in which the results agree with those already arrived at by MM. Vincente and Robin. He gives the bichromate in pills of extract of gentian, in the proportion of one gramme (15½ grains) to the eighty pills. He begins with one pill a-day, and then goes on to two, three, four, five, and six a-day, increasing one every fourth day, and at the end of a month, when the cure is generally complete, he has given two grammes of the bichromate, or 160 pills. He adds a little opium, if there is any nausea or vomiting. It must be stated, however, that an abstemious diet was insisted upon, and that sarsaparilla and guaiacum were given at the same time, so that it is not quite clear, from these experiments, how much credit is due to the bichromate.

Art. 124.—*Case of Ligature of the Common Iliac for Aneurism of the Gluteal Artery.* By Professor C. W. F. Uhde.

(*Deutche Klinik*, No. 8, 1853.)

Incidentally to this case, Professor Uhde relates the particulars of ten cases of gluteal aneurism, in which the gluteal artery was tied three times, the internal iliac six times, and the common iliac once. It appears that the common iliac has been tied about eighteen times. In six of these, the patients recovered; in the others, death happening in periods varying from two hours to eight months.

The patient M. Uhde operated upon, was a smith, æt. 26, who had long been afflicted with rheumatism, and who was then suffering from violent pain in the thigh, in consequence of the pressure of the aneurism upon the principal nerves of the limb. The common iliac was tied in the usual manner upon the 7th October, 1852; and death followed on the 11th. On examination, the wound was found in a healthy state, but the areolar tissue surrounding the iliac vessels was infiltrated with pus, and the superjacent peritoneum covered with a thin layer of lymph. The gluteal artery within the pelvis was somewhat dilated. The site of the gluteus medius was occupied by the sac of the aneurism, and there was scarcely a single relic of the muscle remaining. The sac itself was filled with coagulum.

Art. 125.—*Treatment of Spermatorrhœa.*

(*Peninsular Journal of Medicine*, Aug. 1853.)

The following remarks are copied into this Journal from the Boston Medical and Surgical Journal, but neither names nor dates are given. They seem to be deserving of very serious consideration.

"With the difficulties connected with the treatment of obstinate cases of this malady, most practitioners are familiar. Books without number have been written on the subject; and almost every system of medicine proposes remedies, many of which on trial are found of no value whatever. It is hopeless to undertake to interrupt by medication the repetitions of the misfortune. There are but two methods, we believe, decidedly reliable; one of them is mechanical, the other is left to the ingenuity of the reader to ascertain. For several years past some of the very worst forms in which the disease presents itself, have been terminated in a short time, and the sufferer restored to permanent health, by a mechanical contrivance which originated, it is believed, in Boston. The way to proceed is this:—Take a piece of firm harness-leather one inch wide, and make a ring or ferrule, which shall be one eighth of an inch greater in diameter than the penis. Thrust the points of four pins, equi-distant from each other, through the walls of the ring, so that they will project through a little way on the inside, and then cut off the projecting part of the pins on the outside. On retiring for the night, slip the ring on the organ midway, and insert cotton wool between the two, to keep the pins from pricking the flesh. An emission seldom occurs without a full distension of the penis. The theory of a cure, as well as the facts, are simply these. When an erection takes place, and even before, the uniform enlargement presses the cotton, which yields, causing the points of the pins to enter the flesh, and thus the patient is instantly awakened. This occurs as frequently as distension comes on, and the semen is therefore retained. This, we repeat, is superior to any and all other prescriptions made use of. Last week an instrument was left on sale at Dr. Cheever's, under the Tremont Temple, in this city, that acts precisely like the leather ring. It is made of steel, however, clasping like a dog's collar, according to the size required, and having on its inner edge a row of sharp points. Within this steel ring is another, extremely delicate, which opens to receive the penis, and retains it exactly in the middle. When it begins to distend, the small ring allows the member to enlarge till it strikes the sharp points, and then the individual is awake and safe. After interrupting the emission a few times in this way, the morbid tendency, in many cases, is removed, and the sickly, feeble youth rallies and regains his health. Other cases may require a more constant use of the remedy, until maturer age and different circumstances render it no longer necessary."

ART. 126.—*Observations on Cystic Disease of the Testicle.* By T. B. CURLING, F.R.S., Surgeon to the London Hospital.

(*Medical Times and Gazette*, Aug. 27, 1853.)

The author found the cysts communicating with the tubular structure of the testicle, and believes them to be dilatations of the vessels of the rete. He describes the characters of the intra-cystic growths, and considers that, in some cases, the disease may be malignant. He concludes:

1st. Cystic disease of the testicle occurs in two forms,—innocent and malignant.

2d. Both forms are the result of morbid changes in the ducts of the rete testis, this part of the organ being the sole seat of the disease.

3d. The innocent form is characterised by the presence of tesselated epithelium.

4th. The malignant form is characterised by the presence of nucleated cancer cells.

5th. Enchondroma occurs in both forms of the cystic disease.

ART. 127.—*On the Operation for Phimosis.* By M. MAISONNEUVE.

(*Gaz. des Hôpitaux*, No. 13, 1853.)

M. Maisonneuve observes, that simple as is the operation for phimosis, there are few others so defective in their results, that by the longitudinal incision leaving inconvenient angular flaps, and the modification of the Jewish circumcision leaving the entire glans exposed. On the examination of persons suffering from congenital phimosis, it will be found that the constricted portion of the prepuce forms a circle of only moderate breadth, beyond which the skin retains all its laxity. If this circle be removed, the glans can expand itself during erection, while, as the prepuce has undergone but a slight loss of substance, it still covers the glans when quiescent. Drawing the prepuce forwards, M. Maissonneuve removes a circular slice with the knife, which includes all the constricted portion, and at once retracts, leaving the glans exposed, and only covered with the preputial mucous membrane. In the second stage, the mucous membrane is divided along the dorsum to the extent of a centimetre, and the angles of the incision snipped off. Lastly, the edges of the prepuce are united with those of the mucous membrane by means of *serres-fines*. A supple and mobile prepuce covers the glans and readily slides back during erection.

ART. 128.—*A Curious Case of Paraplegia involving Amputation of both Thighs at the request of the Patient.* By Dr. PURPLE (U. S.)

(*New York Journal of Medicine*, May, 1853.)

The case related by Dr. Purple, is that of a young man, a native of Virginia, who, at 22 years of age, had his back broken by the fall of

a tree, which he was in the act of felling. The result of the accident was the immediate loss of motion and sensibility in all parts below the fifth dorsal vertebra, and of voluntary power over the bladder and rectum. He recovered, however, from the immediate effects of the accident, and regained a fair amount of his former health, but the paralysis continued, though the paralysed parts were as plump and warm as ever. He gained his livelihood as a pedlar, and spent nearly all his time lying on his back in the vehicle in which he travelled from one place to another.

In 1851, six years after the injury, he presented himself to our County Medical Society, and requested the amputation of his lower extremities. He insisted upon its performance with his wonted resolution and energy. His reasons were, that they were a burdensome appendage to his body—causing him much labour to move them, and that he wanted the room they occupied in his carriage for books and other articles for peddling. These reasons were not sufficient to induce a majority to consent to an amputation, as, independent of the horrors of so extensive a mutilation for such reasons, there were fears that the vitality of the vegetative existence enjoyed by his limbs was such as might endanger a healthy healing process.

The patient, nothing daunted by our reasoning, firmly resolved to cast off the offensive limbs as a useless burden on the rest of his body, sought other counsel, and succeeded in getting his wishes gratified. Both limbs were amputated near the hip joint *without the slightest pain, or even the tremor of a muscle.* The stumps healed readily, and no unfavorable symptoms occurred in the progress of a perfect union by the first intention. In this mutilated condition he was unable to move his pelvis in the slightest manner without the greatest effort by the aid of his hands.

He then resumed his former wandering life, and travelled over this and portions of the adjoining States, until May, 1852, when he was arrested in this village by his last disease, which suddenly terminated his life.

He died with all the symptoms of disease of the digestive functions consequent upon his bacchanalian propensities, to which he had been strongly addicted since the injury. He was very excitable, and the smallest quantity of spirits irritated the brain to the utmost frenzy. His irritable characteristics were unbounded, and although he was in the most helpless condition, he was converted from a man of a mild and amiable disposition to one of the most irritable of the human family. His energy, his force of character, and his mental powers, generally were very much increased by the narrow limits in which his sentient powers were confined.

(c) CONCERNING THE UPPER EXTREMITY.

ART. 129.—*Mode of reducing Dislocation of the Thumbs.* By JOHN DOE, ESQ., M.D., of Cabot, Vermont.

(*American Quarterly Journal of Medicine*, April, 1853.)

In this dislocation, the phalangeal end of the metacarpus projects

into the palmar surface of the hand, forcing itself between and through the flexor muscles of the thumb, which form a loop around the head of the bone. Extension made upon the thumb makes this loop more tense; and, as the metacarpal end of the first phalanx is broad and considerably flattened on its palmar aspect, it must be apparent at once that the difficulty of reduction is directly as the amount of extension. There is good reason to believe that extension would never succeed in these cases without rotation. The principal indication of treatment here, is to relax the flexors forming the loop, so that the end of the phalanx can be pushed forward into the loop, and by carrying the muscles forward with it disengage the head of the metacarpus. This can be done in the following manner:

Having previously warmed the hand, if cold, in warm water, the surgeon should seat himself by the patient, facing in the same direction, and upon the same side with the injured thumb, and place the hand upon his knee. Tilt back the thumb upon the dorsum of the metacarpus to more than a right angle, or so as to form a slightly acute angle with the latter bone; place both index fingers against the ball of the thumb, and the ends of both thumbs against the dorsum of the disarticulated end of the phalanx; then by pushing forward forcibly, get steadily against the phalangeal bone with both thumbs. Reduction will generally be effected on the first trial, and almost instantly.

The writer claims not the honour of originating this method, but supposes it to be adopted by many surgeons in this country.

(D) CONCERNING THE INFERIOR EXTREMITY.

ART. 130.—*Gangrena Senilis successfully treated by Amputation of the Thigh.* By J. W. GARLIKE, Esq., Rickmansworth.

(*Medical Times and Gazette*, April 9, 1853.)

This case was brought before the Royal Medical and Chirurgical Society. Speaking upon it subsequently, Mr. Ferguson said, that it was "an admirable instance to show that a surgeon never should be entirely influenced by precept or authority in the course which he should pursue. It was desirable in some cases to take a far higher view of surgery; to act, in fact, with decision in certain cases, even in opposition to prescribed rules."

William A——, æt. 69, labourer, an extremely emaciated man, of sallow complexion, marked with the small-pox, bald, and toothless, suffered since May 1st from a small painful sore on the great toe of the right foot, accompanied with shooting pains in the leg. He continued to work until May 11th, when he came under Mr. Garlike's care. The toe was then slightly inflamed; the foot exhibited a dry scaly appearance; there was no sense of feeling in the smaller toes, and the temperature was below the natural standard. The left foot was similar in appearance, but free from any wound. No pulsation could be felt in the right femoral artery below the superior third; the iliac arteries pulsated softly. About the middle of July the whole foot was converted, as far as the instep, into a black slough; he suffered the most intense pain, and the delirium was almost constant; pulse 105—120. In

August a line of demarkation formed across the dorsum of the foot; florid granulations presented themselves, and the pain became less. The patient took bark, ammonia, and opium. Next, a large collection of matter formed in the leg; it burst spontaneously below the head of the tibia, and discharged a quantity of purulent fluid. After a fortnight it healed, with the exeeption of a small fistulous passage leading to the bone. In a few days a second collection formed, which pursued a similar course. Afterwards matter collected in the knee-joint: and on September 20th the synovial membrane gave way just in front of the internal lateral ligament, and gave exit to more than a pint of pus. The patient's health improving somewhat, Mr. Garlike determined upon amputation of the thigh. Mr. Walton, to whom the case was subjected for opinion, did not speak encouragingly of the operation, but he thought that pure country air gave the patient a better chance than he would have in an hospital. At this period some cases had been treated in this way by Mr. Fergusson, at King's College Hospital. Mr. James, of Exeter, also has published similar cases in his work on "Inflammation." Amputation was performed by Mr. Garlike on September 30th, as near to the trunk as possible. After the first gush of blood the patient became faint and insensible. Every vessel was tied as it was divided. The femoral artery being ossified to two thirds of its circumference, a ligature was applied to this vessel in a series of convolutions, the single thread being sufficient to cut through the ossified coats. The case terminated favorably; the stump was excellent, and the patient shortly gained both weight and strength. A small ring of bone exfoliated from the extremity of the sawn femur some weeks after the operation. Mr. Garlike prefers to remove the limb as near the trunk as possible, at which point, in all probability, the principal vessels will be found capable of performing their functions.

Art. 131.—*Dislocation of the Femur reduced by Dr. Reid's Method.* By J. H. Beech, M.D., Cold-Water, Michegan, U.S.

(*Buffalo Medical Journal*, Jan. 15, 1853.)

This case is interesting on account of the rarity of the accident, and the particular means employed in the reduction. Dr. Beech writes:

March 28th, 1852, I was called into the house of Mr. Samuel Otis, about noon, to see his son, æt. two years and one month, and learned that, the day before, he was on his hands and knees, when his brother, two and a quarter years older, jumped suddenly upon his back, by which he was instantly brought to the floor upon his face and left shoulder, with the left leg under him. His screams were violent, and continued to be so whenever the limb was moved upon the body. The mother was obliged to keep him in her arms in a partially flexed position most of the time, and even then he seemed to suffer considerably.

I found the thigh slightly swollen, the toes inverted, and the limb half an inch longer than the sound one, when both were made straight, which gave great pain.

When laid upon the back with the thighs at right angles with the body, the knee was more than half an inch lower than the sound one. Lying upon the face, the body upon a pillow, the trochanter major was found farther back than the tuber ischii, and farther from the crest of the ilium, and also the flatness between the crest and the trochanter contrasted strongly with the roundness of the other side.

There was no crepitation, nor any difference in the length of the femurs that I could discern. My diagnosis was, of course, dislocation of the head of femur upon the spine of the ischium, or into the lesser ischiatic notch. From the violence of his cries during the examination, I thought an anæsthetic advisable, but as he resisted the inhalation with great energy, it was not persevered in, thinking better to try first "Dr. Reid's method."

Accordingly, the little patient was laid on his back upon a hard bed, with the shoulders confined by the mother, and the pelvis and right leg held firm by the father, while I proceeded to flex the thigh upon the body, and the leg upon the thigh (allowing the toes to take their own direction, that of inversion), carrying the knee over the right thigh in its passage upward. When a little higher than at right angle, I was confident that I felt the head of the femur come in contact with the edge of the acetabulum, upon which, I increased the abduction, and continued the flexion, bringing the knee pretty firmly upon the body, and then allowed it to move outward, upon which a sensation of gentle crushing or sliding was felt, and the patient altered the tone of his cries very perceptibly. The limb was now brought flat upon the bed, and all restraint removed. The position of the toes and length of the limb were found to correspond precisely with the sound one, and after remaining quiet a moment, he asked to be taken up, but made no complaint as before on being moved. He now sat erect on the lap, with both hip and knee-joints at right angles, and said cheerfully, "I ain't sick now."

The reduction did not take half as long, and seemed no more painful than my examination had been.

ART. 132.—*On the Treatment of Contractions and Anchylosis of the Knee and Hip Joint by Forced Rupture.* By P. FRANK, M.D., of Manchester.

(*Medical Times and Gazette*, Aug. 6, 1853.)

"In our dissertation on contractions and anchyloses, we have expressed our full approbation of the opinion first promulgated by Bonnet,—viz., that it is not only justifiable, but even strictly indicated, to stretch a contracted joint, although inflammatory symptoms may still exist. The theoretical presumptions by which this practice is vindicated are too well known to the profession to need any further discussion. It is a practice which has been crowned with the most eminent success, as all those conversant with the works of Bonnet are aware of. A most brilliant case of this kind, which occurred in the practice of Mr. Langenbeck, is subsequently related, which will testify more forcibly in favour of the proposition we advance than the most eloquent arguments. This practice is, of course, contra-indicated if the organism of the patient is in an advanced state of debility, where a dangerous and local reaction might be apprehended. According to the experience of Mr. Langenbeck, a still existing chronic-arthritic process can alone be regarded as an absolute contra-indication. If this process has terminated, contractions of the joint can be successfully treated by forced extension. The deep alterations known to be produced on the articular surfaces by the chronic-arthritic processes do not permit us to expect the restoration of the normal functions of the joint.

It will be no matter of surprise, that forced extension being practised under the precautions enumerated, we have no account to give of serious accidents having supervened during the operation. The skin was never ruptured. Only in one case superficial excoriations were observed in the popliteal fossa. We never saw the popliteal artery ruptured as it was by the machine of Louvrier, nor was ever one of the large nerves lacerated. Only once, after forced extension of an anchylosis at an acute angle, anæsthesia supervened in that part of the skin supplied by the saphenus major nerve. In a short time, however, the normal sensibility returned. Nothing more serious than a distension of the nerve can, therefore, be surmised. Where a subluxation of tibia backwards existed before the operation, it of course became more evident, after extension had been performed. Only in two cases, one of which occurred in the Royal Surgical Clinic, the other in the private practice of Mr. Langenbeck, the luxation was rendered perfect. In both of these cases, it was impossible to detach the anchylosed patella from the external condyle of the femur. All the injuries produced by the operation being subcutaneous, the reaction, after a proceeding apparently so dangerous, never attained a serious character. Of constitutional symptoms nothing but a slight febrile irritation is on record.

As far as local action is concerned, in most cases nothing but a superficial reddening was observed. In some cases, a slight inflammatory infiltration of the parts surrounding the joint took place; in others, small sugillations were noticed. A suppurative phlegmon was never remarked. These symptoms quickly yielded, in all cases, to the employment of cold applications. Violent pains in the stretched muscles always followed the operation. In several cases pains increasing on pressure were complained of on the anterior surface of the epiphysis of the tibia. We do not hesitate to ascribe these to violent contusions to which the part is exposed in attempting to detach the anchylosed patella. They were most marked in those cases where this detachment was attended with the greatest difficulties."

ART. 133.—*Operation for Knock-Knees.* By Dr. MAYER, Surgeon to the Orthopædic Hospital at Würzburg.

(*Lancet*, June 18, 1853.)

The following interesting case is extracted from a recent volume of the proceedings of the Medical Society of Würzburg, by Mr. Bonney, of Knightsbridge.

John H——, a strong and healthy-looking boy of fifteen, son of a baker, and employed in his father's business, was found, on admission into the Orthopædic Hospital at Würzburg, to have the right leg diverging about seven inches, and the left about eight, from the direction of the corresponding thigh.

On the 14th of August, 1851, the lad having been put under the influence of chloroform, Dr. Mayer made an incision beginning three-quarters of an inch below the insertion of the ligamentum patellæ, and curving downwards so as nearly to surround the front and inner (or mesial) side of the head of

the tibia. He then turned the flap upwards, and divided the periosteum in the line of the first incision, and afterwards, with Heine's cutting-needle, separated the periosteum from the outer and posterior surface of the tibia, so as to prepare for the use of the saw. To protect the soft parts in that situation during the sawing, a strip of watch-spring, about half an inch wide, was introduced between the denuded bone and the periosteum. Dr. Mayer then, with a round saw, made two incisions converging towards the posterior part of the tibia, and meeting about a line and a half from the surface, without therefore quite cutting the bone in two. The wedge thus excised was about five lines thick at its base, and was easily removed by forceps. The wound was cleared of bone-dust by forcible injections of cold water, after which, through the flexibility of the remaining isthmus of the tibia and the mobility of the fibula, no difficulty was found in bringing the cut surfaces of bone into close apposition. The outer wound was brought together with the greatest accuracy by needles and ligatures, (as for hare-lip,) the hæmorrhage being quite inconsiderable. The leg was then put into one of Boyer's hollow splints, used for fracture of the patella.

Half an hour after the operation, as, through the perfect apposition of the divided parts, no discharge of any kind was visible, the wound was covered with a thick layer of collodium, and upon this drying the ligatures and needles were removed. The traumatic reaction was very slight, and on the fourth day the external wound (five inches long) had perfectly united. The leg was now left quiet in the splint for twenty-three days, when Dr. Mayer had the pleasure of finding that the incised surfaces of bone had united also. The next day the patient was allowed to walk in his room with crutches, and a few days afterwards in the garden without any artificial support whatever.

On the 3rd of October the other leg was operated on in the same manner, and with the same success. He left the hospital, free from deformity, and with a firm and natural gait, on the 19th of November.

ART. 134.—*Excision of the Knee-Joint.* By (1) Mr. FERGUSSON; (2) Mr. JONES, of Jersey; (3) Mr. PAGE, of Carlisle; (4) Dr. STEWART, of Belfast; and (5) Dr. MACKENSIE, of Edinburgh.

(*Edin. Mon. Journ.*, June, 1853; and *Med. Times and Gazette*, July 2 and Aug. 27, 1853.)

Since 1850, when this operation was revived by Mr. Ferguson, the knee appears to have been excised in thirteen instances; thrice by Mr. Ferguson; six times by Mr. Jones; once by Mr. Page; once by Dr. Stewart; and twice by Dr. Mackensie. Of these cases two have died from the effects of the operation, and one from dysentery. The remaining ten are alive. In five, the limb is servicable for progression; in one, the result, as regards the usefulness of the limb, is yet uncertain; in one, the result is not known; and in the remaining three, sufficient time has not yet elapsed to render the result certain, but of each favorable expectations may be entertained. The other statistics of the operation will be found in our last volume, p. 208.

1. MR. FERGUSSON'S CASES.—CASE 1.—A male, æt. 21. The operation was performed July 20th, 1850, and proved fatal on the ninth day from acute necrosis of the femur, the same cause of death apparently as occurred in the child operated on in 1830 by Mr. Syme.

CASE 2.—A female, æt. 21. The operation was performed October 30,

1852. Considerable constitutional disturbance ensued, which subsided in a few days. Convalescence, however, was protracted, at a subsequent period, by a severe attack of erysipelas. Six months after the performance of the operation, the wound was entirely healed, but one or two superficial sinuses discharging a little matter still existed in its neighbourhood. The limb was shorter than its fellow by about three inches, and slightly bowed outwards at the knee. Slight motion (chiefly antero-posterior) existed between the bones. The limb was still œdematous, from the effects of the erysipelatous attack. The patient moved freely about the ward on crutches. She could bear strong pressure of the tibia upwards, but as yet did not bear any weight on the limb when walking. Her general health appeared to be good.

Case 3.—Emma Saville, æt. 28, a domestic servant, was admitted into King's College Hospital, Jan. 22, 1853. Her knee began to be painful and swollen eleven years previously, and she had had frequent attacks subsequently, each attack being more severe than the former one. Left knee much larger than the right, the chief difference being over the head of the tibia. The joint is bent outwards, as though there had been a partial dislocation. Considerable pain is experienced through the joint, and is much aggravated in the night. On rubbing the bones together, a very distinct grating is experienced; any attempt at motion on the part of the patient gives intense pain. There is no disease whatsoever of the soft parts, and the swelling is not great, and there does not appear to be any, or at least any quantity of, fluid within the joint. Her general health is weak; she has lost much flesh, and the countenance is of a sallow and unhealthy appearance; sleep is prevented at night by the pain.

The patient was placed under the treatment ordinarily adopted in such cases; the limb was bandaged from the toes, and was placed upon a splint, and perfect rest was enjoined. Under this treatment, the patient experienced relief from pain, but permanent benefit did not result; the patient continued in her weak state of health, and became most anxious to have some operation performed, but refused to undergo amputation. It was therefore determined upon to perform excision.

Excision of the knee-joint was performed on Saturday, April 2, 1853. The operator did not remove any of the skin, as in the instance next related; but more of the femur was taken away, in consequence of the periosteum being stripped off from the bone for some inches. There was a considerable amount of disease in the joint; the cartilages had entirely disappeared, and it contained a quantity of cheesy, strumous material. The head of the tibia was more implicated than any other portion. There was only slight bleeding during the operation. The wound was united by sutures; wet lint was placed over it, and the limb was enclosed in a proper apparatus, and suspended on the swing splint; and the patient was ordered half a drachm of laudanum.

3rd.—Has had much pain and starting in the limb at night; pulse 160; had only slept one hour.

4th.—Slept better last night, and is in less pain to-day; pulse 140; to have effervescing draughts, with morphia, every four hours.

5th.—Has no pain in the limb; pulse 130; slept two hours in the night, being much disturbed by a patient dying in the ward. She has been taking beef-tea and brandy every few hours since the operation. The wound was dressed yesterday afternoon, and was found to be looking remarkably well, and the limb lay in good position; she did not suffer pain from the dressing; her bowels have been opened twice by castor-oil; pulse 130; tongue dry; complains of thirst.

6th.—Pulse 110; no pain in the limb; good healthy pus coming from the wound; slept pretty well.

8th.—Since last report, the patient had continued much about the same. Yesterday, however, she fainted two or three times, and to-day she looks pale, and coughs. There is a small sore over the sacrum, and this annoys her much.

Amadou plaster and cotton wool to be applied over it.

9th.—More cheerful to-day; pulse 125; appetite better, takes nourishment well; but she still coughs very much.

On the 11th, there were more serious symptoms of mischief; the tongue became brown and dry; pulse 130, and countenance anxious. The cough became more harassing, and could not be relieved by the remedies used.

On the 14th, the symptoms continuing, she had a severe rigor; the respiration became rapid; and the countenance had the unmistakeable appearance of one labouring under the effects of purulent absorption. From this day, she gradually got worse; and, in spite of all the remedies, stimulating and otherwise, died at seven o'clock on the 18th. During this time the wound looked healthy, and the discharge was of a good character.

Unfortunately, a *post-mortem* examination was not allowed by the friends; but, although the cause of death could not be positively affirmed, still it is pretty evident that this patient died from purulent infection. Mr. Fergusson, however, managed to examine the parts in the wound, about forty-eight hours after death, and found them in a flabby condition. The ends of the bones looked unhealthy, and the periosteum was easily stripped off.

2. Mr. Jones's Cases.—Of the six operations performed by Mr. Jones, four have made excellent permanent recoveries; the fifth is convalescent, and promises a favourable result; the sixth case terminated fatally. The first five cases are related by Dr. Mackensie. The last is by Mr. Jones himself.

Case 1.—A female, æt. 25. The operation was performed January 19, 1851. Unfortunately this patient was residing at a distant part of the island from St. Heliers, and during my short stay of a few hours I was unable to see her. Mr. Jones has furnished me with the following account of her present condition;—She is in perfect health, the parts about the knee having been long entirely healed. The shortening of the limb is a little over three inches. Complete anchylosis has not taken place, so that she requires a support on the inner side of the bone, with which she can move about freely, and can stand at her washing-tub for hours together. She is perfectly satisfied with her condition, and, with a more secure support for the knee, which is being made for her at present, the limb will be rendered still much more serviceable than it now is.

Case 2.—A boy, of 11 years of age when the operation was performed, April 27, 1851. This case appears to have been a peculiarly unfavourable one for the excision. Before the operation was performed, the leg (the left) was fixedly flexed on the thigh, so that the heel nearly touched the hip. The boy was emaciated and worn by hectic, and numerous sinuses existed in the leg and thigh communicating with the diseased bones. The extent of disease necessitated the removal of the femur and tibia to the extent of nearly five inches. His recovery was tedious. The condition of this patient, when I examined him, April 21, 1853, was as follows:—He appeared to be in perfect health. The limb was sound and whole, although numerous cicatrices gave ample evidence of the extent of the previous disease. Complete anchylosis had taken place at the seat of operation, the limb being a little bowed outwards, and slightly flexed at the knee. The shortening of the

limb, when compared with the other, was rather under four inches. The muscles of the limb were well developed. He could walk and run quickly without any aid from a stick, could stand on the limb alone, and, to show me his confidence in it as a support, he *pirouetted* and hopped two or three yards without putting the right leg to the ground. No measurement of the limb had been made subsequently to the performance of the operation; but a careful examination of the apparatus in which it had been placed, and the conviction of Mr. Jones and of the nurse who had attended the boy, satisfied me that the limb had grown upwards of two inches since the operation had been performed.

Case 3.—A lady, æt. 30. The operation was performed, September 4, 1851. Everything progressed as favourably as could have been wished, for eight days after the operation. At the end of this time, she was attacked by dysentery, from which she sank fourteen days after the performance of the operation. With regard to the cause of death in this case, Mr. Jones writes to me, that "at this time affections of the bowels prevailed everywhere, and more particularly in the vicinity where this lady resided, indeed it was the epidemic of the day. The mortality at this period was very great, and very few persons laboured under or died of any other disease. I feel fully persuaded that the operation was not the immediate cause of death. Those who saw the patient with me were of the same opinion; still I am unwilling even to attempt to prove this."

Case 4.—A boy, æt. 7. The operation was performed fifteen months ago. The condition of the patient and of the limb previously to the performance of the operation, was very simular to that of Case 1, the leg being fixedly flexed to the full extent on the thigh. Rather more than four inches of the femur and tibia were removed in the operation. The condition of this patient, when I examined him, April 21, 1853, was as follows:—The boy is in perfect health, the parts about the knee having been for long entirely healed. Complete anchylosis has taken place, the limb being slightly bent forwards at the knee. The limb is $2\frac{3}{4}$ inches shorter than its fellow. He stands equally securely on either foot, walks and runs quickly without any support, and, to show me the use he could make of his limb, he ran up and down the ward, kicking his cap like a football with the foot of the anchylosed limb. I need scarcely say that the halt, with which this and the other boy (Case 1) walked, was very considerable and unseemly. Both, however, were provided with shoes, with a firm but light support under the sole, with which they walked steadily and easily, and with but a slight appearance of lameness.

Case 5.—A male, æt. 20. The operation was performed six months ago. previously to which the limb was flexed at an acute angle, as in Cases 1 and 4. When I saw this patient (April 21, 1853), he appeared in good health. The parts about the knee were firmly cicatrised, with the exception of a superficial sinus, which still continued to discharge a little matter. All swelling had disappeared, and the limb, with the exception of this trifling sinus, appeared perfectly sound, and presented less trace of the operation which had been performed than I could have conceived possible. There was complete anchylosis in the straight position. The extent of shortening of the limb was rather under an inch and a quarter. He walked about the ward with crutches, the limb not yet having acquired sufficient strength to allow of his walking easily without support. He laid aside his crutches, however, and showed me that already he could walk without them, and with but a very slight halt. I have since heard from Mr. Jones that this patient is progressing rapidly. As far as I could judge, this case promises the most perfect result which can be reason-

ably expected, after the removal of the patella and articulating ends of the femur and tibia.

Case 6.—William Livermore, æt. 12, was admitted into the Jersey Hospital on the 12th of October last, for an affection of the right knee, of upwards of a year's standing. His general health was not very much impaired, and the condition of the limb was—general inflammation of the knee-joint, and the textures surrounding it. A careful investigation led to the supposition, that ulceration of the cartilages had already much advanced. There was general distension of the joint, as if by contained fluid. A fair trial of the following means was carried out:—The patient was kept in bed; the joint frequently covered with leeches; then cupping, blistering, mercurial and iodine frictions, tartar emetic ointment, each combined with appropriate constitutional remedies;—all failed. The operation was performed on the 17th of April last. A longitudinal incision was made on each side of the knee-joint, midway between the vasti and flexors of the leg, full five inches in extent; rather more than half the length was over the femur, and rather less than half over the tibia. These two cuts were down to the bones; they were connected by a transverse one just over the prominence of the tubercles of the tibia, care being taken to avoid cutting the ligamentum patellæ by this incision; the flap thus defined was reflected upwards, the patella, its ligament, and the joint, thereby exposed. The synovial capsule was cut through as far as it could be seen; the patella and its ligament were now drawn over the internal condyle, while the joint was kept extended. It was next forcibly flexed, the crucial ligaments, almost breaking in the act, only required a slight touch of the knife to divide them completely; the articular surfaces of both bones were thus completely brought to view, and nearly two inches of the femur and half an inch of the tibia were sawn off, the soft parts being drawn aside by assistants. The external condyle of the femur was found hollowed out by a large abscess, and it was necessary to saw off a portion of the carious bone, and to gouge the remainder, until healthy cancellous tissue was reached. The entire synovial membrane was in a state of pulpy degeneration, and was carefully dissected off. The hæmorrhage had been rather great, but had now almost ceased, and no vessel required deligation. The blood was sponged out of the wound, the patella (after the diseased portion had been gouged out) and its ligaments were replaced, as nearly as possible, in their natural state, the bones brought in apposition, the flap brought down and held by sutures, the limb bandaged on a slight under-splint and laid in a box, the wound covered with moist-lint, and the boy put to bed yet asleep. The operation occupied full twenty minutes, and was performed while the patient was under the influence of chloroform.

Opiates had, for some time, to be freely administered every night; and the boy's appetite, always excessively small, having entirely failed, the stimulating plan of treatment was followed out more rigorously than I had pursued it in other cases. The seventh day after the operation, a slough of some extent was perceived on the lower part and sides of the flap. This went on increasing for some days; the ligamentum patellæ was, however, never bared. Mild, stimulating applications arrested its progress; healthy granulations sprang up; and soon the suppuration, which at one time was very considerable, lessened in quantity. At present it amounts to a mere nothing, the wounds being now all but healed.

Not seven weeks have yet elapsed since this operation was performed, and it is most satisfactory to witness its favorable and rapid progress. The little patient never experiences the slightest pain in any part of the limb; he turns it from side to side easily and quickly, and, without either assistance or

appliance of any kind, can, while lying on his back, raise the leg from the hip upwards. The knee bows slightly inwards; but my previous experience in these cases leads me to believe, that a very slight mechanical contrivance will entirely remedy this. The patella is adherent to the femur and tibia, and its ligaments preserve its integrity.

3. Dr. Mackensie's Cases.—Case 1.—Wm. Harrison, æt. 42, a hostler, from Carlisle, was admitted under my care in the Royal Infirmary, September 28, 1852, suffering under disease of the left knee-joint of five years' standing. The symptoms were those which are usually attributed to ulceration of the cartilages, uniform thickening of the parts around the knee, severe gnawing pain, especially during the night, and much aggravated by the slightest motion of the joint. Considerable relief was obtained by the joint being kept immoveable in leather splints, and by the repeated application of the actual cautery. The thickening of the soft parts became diminished, and I hoped the patient was to recover with a stiff joint. A painful spot, however, remained over the inner side of the head of the tibia, on account of which the counter-irritation was continued, and the joint retained for a long time fixed by the leather splints. He continued in this condition till about the middle of January, when, without assignable cause, the pain in the knee, especially on each side of the head of the tibia, became much aggravated. The pain was now so severe and constant that, in spite of the free and frequently repeated use of morphia, he scarcely slept night or day. The swelling of the joint again increased, and the foot and leg became œdematous. On the 26th of January I called a consultation of my colleagues on the case, as it appeared to me that the removal of the disease by operation was alone likely to save my patient. It was thought, however, that a repetition of the same measures as had been already adopted, might still save the joint. The leather splints were accordingly readjusted, and the cautery once more applied in front of the joint. No relief, however, was obtained, and after ten days' further delay I yielded (with the consent of my colleagues, who saw the case with me) to the earnest solicitation of the patient, to remove the disease by operation.

The operation was performed, February 5, 1853. A straight incision was made across the front of the joint, a little below the level of the patella, and extending to rather less than half the circumference of the limb, and at right angles to each end of this transverse incision, a longitudinal incision of about two inches in length gave the wound somewhat the form of the letter H. The operation was performed quite according to the plan of Moreau, the patella being first removed, then the condyles of the femur, and lastly the articular surface of the head of the tibia. It was accompanied by smart hemorrhage from the articular arteries, which was at once arrested by applying ligatures to them. On dividing the tibia with the saw, the cavities of two abscesses in the cancellated texture of the bone, were laid open, each of a size capable of containing a grape. I carefully removed the remaining portion of the walls of these abscesses with the gouge, and then, finding that the diseased portions of bone had been entirely removed, I placed the ends of the tibia and femur in apposition, united the wound by sutures, and fixed the limb in the straight position, by applying a splint on its posterior surface. (The articular surfaces of all these bones were found almost entirely deprived of cartilage; and both the cancellous and laminated structure of the bones, at various points, were in a state of suppuration and caries. The primary disease evidently consisted of suppuration of the cancellous texture of the head of the tibia. The extent of bone removed in the operation amounted

to rather more than two inches—an inch and a half of the femur, and a little more than half an inch of the tibia).

The progress of the patient for the first two days following the operation, was most satisfactory. He slept well, which he had not done for weeks before; his pulse never rose above 80; he expressed himself as entirely relieved from the severe pain which he had been previously suffering. On the evening of the third day he began to suffer from hiccough, which very soon became constant, and continued unmitigated by all the remedies which were employed to relieve it, for six successive days and nights. The spasm of the diaphragm at length yielded on the seventh day under the continued pressure of a seven pound weight over the epigastrium, and the pretty free use of the tincture of Indian hemp, and everything went on favourably till about Feb. 23, when he began to complain of pain in the region of the diaphragm, and on pressure over the right hypochondrium. Obstinate diarrhœa succeeded, the evacuations presenting no appearance of bile. He lost all appetite; became desponding as to his recovery, and lost flesh rapidly. The wound, however, never presented, during this time, any very unfavourable appearance. Primary union had failed in the greater part of its extent, but the discharge was moderate, and the entire surface was covered by healthy granulations. Considerable difficulty, however, was experienced from the unfavourable condition of the patient, in keeping the bones in proper position, the end of the thigh-bone having a great tendency to project forwards and outwards. The diarrhœa continued, with short intervals, for about a month, and then gradually ceased under the use of mercurial alteratives, and the repeated application of blisters over the region of the liver. He then began to improve, and in a short time I considered him out of danger, when he was attacked by acute pleuro-pneumonia of the right side, the inflammation extending apparently over a large surface of the diaphragmatic pleura. Under Dr. Douglas' care he again recovered from this attack; and he has now for the last six weeks gone on improving steadily, and is now, I am glad to say, quite convalescent. With regard to the state of the limb during this time, I may mention, shortly, that in spite of all the serious constitutional derangement, the wound progressed slowly but steadily. The long-continued diarrhœa, and the emaciated condition of the patient, rendered it no easy matter to keep the bones in good position; but under Dr. Thom's careful management, this was satisfactorily accomplished. At the end of six weeks after the operation, the motion at the knee was very limited, and since this time it has progressively diminished.

The present condition of this patient (three months and a half after the operation) is as follows;—His general health is tolerably good, and is improving rapidly; he sleeps and eats well, and has no complaint of uneasiness of any kind. He is still confined to bed, but this is a measure of precaution more than of necessity, to prevent any motion at the seat of operation till the bones are firmly consolidated. The limb, which is supported by a leather splint behind the knee, and a starched bandage, is slightly bowed outwards at the knee, and is one inch and a quarter shorter than its fellow. The wound is healed, with the exception of a granulating surface on the other side, which may be covered by the point of the finger. On the inner side, too, there is a small discharging surface, where a superficial abscess of trifling extent was opened about a week ago. There is still a little œdema of the whole limb, but this has diminished steadily for some time, and is now nearly gone. The bones at the knee are immoveably fixed as regards lateral motion, but on using a little force, slight motion backwards and forwards can still be perceived. Two or three weeks more, I have no doubt, will serve to

complete the osseous anchylosis. He can move the limb freely in all directions, but is directed to keep it in as quiescent a state as possible.

Case 2.—Isaac Johnston, æt. 28, a fisherman from Shetland, was admitted under my care in the Infirmary, February 14, 1853, suffering from disease of the right knee-joint, of about ten months' standing. The affection had commenced, without assignable cause, by pains and swelling of the joint, which gradually increased; and, for two or three months previously to his admission into the hospital, had entirely disabled him from moving about. The condition of the joint was similar to that of Harrison, but the symptoms were less severe. The pain was considerably mitigated by the joint being kept immoveable in leather splints, and by the repeated application of blisters. About a month after his admission into the hospital, the pain again became more severe, and was referred chiefly to the outer side of the head of the tibia. The actual cautery was freely applied, but without giving any relief, while increasing deformity of the joint, and pain on slight motion, gave evidence of the morbid changes which were in progress in and around the articulation. Shortly after this, he had an attack of modified small-pox, from which he speedily recovered. No improvement, however, took place in the condition of the joint. He continued to lose flesh; the pain and the deformity of the joint continued to increase; and symptoms denoting suppuration of the joint presented themselves.

Sir George Ballingall, Dr. Dunsmure, and Dr. Gillespie, who saw the patient with me in consultation on the 2d of May, agreed with me in the necessity of performing amputation, or excision of the joint, to either of which measures the patient willingly gave his consent.

I performed the operation of excision of the joint on the 5th of May 1853. Having found the disadvantages of the H-shaped incision in my first case, I now exposed the interior of the joint by a semi-lunar incision, extending from the inner side of the inner condyle of the femur to a corresponding point over the outer condyle, the incision passing in front of the joint nearly as low as the tuberosity of the tibia. The flap thus found was dissected back, the *ligamentum patellæ* being divided, and the patella itself left in the substance of the flap. The rest of the operation was completed, as I have already described, with the important exception, that the patella was left in its place, and its immediate attachment left undisturbed. The cartilage, however, which remained on its surface was removed by the gouge, as well as the rough surface of bare bone around its articular margin. The amount of bleeding was very trifling: one of the articular branches and several small vessels were secured by ligature, and the wound was dressed and the limb supported as I have already described in my former case. (The interior of the joint presented the usual appearances accompanying advanced strumous disease of the synovial membrane, suppuration of the joint, universal thickening and degeneration of the membrane, and ulceration of the margins of the cartilage in nearly their entire extent. Great part of the cartilage covering the articular end of the bone was as yet unaltered. Three-fourths of an inch of the tibia, and fully an inch and a half of the femur, were removed.) With regard to the progress of this case since the performance of the operation, I need only say that the patient has suffered as little local and constitutional disturbance as usually follows excision of the elbow-joint, and certainly very much less than usually follows amputation of the thigh. He has been almost entirely free from pain, and has slept and eaten well, whilst his general appearance has been such that no one, who was unaware of the operation which has been performed, would, on seeing him, have imagined that he had undergone an operation which was dangerous to life. Nearly a half of the

wound is already healed, and the remainder is covered by healthy granulations. The discharge, which has never been great, is already diminishing in quantity. There has not been the slightest tendency to displacement of the bones from the straight position,—a circumstance which I attribute, in a considerable measure, to the patella and its attachments having been left undisturbed. Little more than a fortnight has elapsed since the operation was performed, and I am, therefore, unwilling to say more of the case at present than that it promises, as far as it has gone, a most favorable result.

4. Mr. Page's Case.—The patient in this case was a lad of 17 years of age. The operation was performed, June 7, 1852. The patella, and two and a half inches of the femur and tibia, were removed. At no time after the operation was there any important amount of constitutional disturbance. Mr. Page gives the following account of his present condition:—"He is now able to walk quite firmly, and without a stick, for a short distance, and is daily gaining greater control over the limb. He wears a shoe, the sole of which is about three inches thickened, that being the amount of shortening. The thigh and leg bones are firmly united, forming a firm and perfectly straight limb. The size in the situation of the excised joint is about that of the opposite knee."

The results of Dr. Stewart's case, are stated to be "very encouraging," but no minute particulars of this case have been furnished. The particulars are chiefly from Dr. Mackensie's paper.

Art. 135.—*Removal of the Sequestrum of the entire Shaft of the left Tibia.* By John Adams, Esq., Surgeon to the London Hospital.

(*Medical Times and Gazette*, June 30, 1853.)

The history of the following case and its progress are somewhat remarkable. It seems to be a solitary instance of the kind; but whether this be the case or not, it shows that, under the most unfavorable circumstances, the attempt to save a limb may be attended with success.

"A youth, æt. 11, was brought to me in April, 1852, from a school in Kent, in consequence of severe inflammation in and about the ankle-joint. The disease was attributed to a sprain of the ankle; but the account hardly justified the opinion that it arose from accident. The youth was delicate; and I had, some time before, endeavoured to dissuade his mother from sending him to school.

When I first saw him, there were signs of suppuration in and about the ankle-joint; and, on moving the foot, distinct crepitation was felt, proving that the articular cartilages were ulcerated. The disease was attended with the highest constitutional disturbance. The treatment consisted in the use of ordinary constitutional remedies; and the ankle-joint was enveloped in successive layers of wet lint, so as to keep the parts at rest, and also to maintain a constant moisture about the part.

The history may be summed up very briefly. The disease about the ankle-joint diminished: but it was evidently extending progressively up the shaft of the bone, until the whole tibia was involved, as far as the junction of the shaft with the superior epiphysis. The disease continued, with some diminution in the constitutional disturbance; and hopes, therefore, were afforded that the limb might possibly be saved at the expense of the tibia, which seemed likely to become necrosed. Necrosis of the tibia occurred; and there

was no doubt that the whole shaft of the bone was involved, as a probe, passed in various directions through small openings in the skin, came in contact with dead bone. There was still considerable swelling about the ankle-joint; but the natural mobility of the foot was diminished; indeed, I might say, that it had become, to a certain extent, fixed; and, as the fixity increased from day to day, so did the constitutional irritation abate. I was still further strengthened in the hope of saving the limb. The sequestrum of the shaft could be distinctly felt; it became gradually surrounded at the lower part, towards the ankle, with new bone; while, at the upper part, its surface was more exposed. There were altogether five apertures leading to the sequestrum, in various parts of the leg; from some of these (the lower) small spiculæ of bone were from time to time removed. Seeing that the whole shaft of the tibia had died, and that the ankle-joint had become anchylosed, I advised that time should be given to permit the complete consolidation of the ankle-joint, and the formation of new bone around the sequestrum. There was also another important reason for delay; namely, to give an opportunity for the patient to gain strength by sea air, &c.

I waited, therefore, fourteen months; and, as everything appeared favorable for the operation, with the assistance of Mr. Coulson, who had been consulted previously on the case, I removed the sequestrum.

The operation consisted in laying bare the dead bone a little below the middle of the leg; in cutting it through with Hey's saw and cutting plyers; in gouging away the new bone, so as more readily to bring away the dead piece; and then drawing the lower fragment upwards, and raising the upper fragment from its bed, thus removing, without any splintering, the two pieces which constituted the entire shaft of the tibia.

It was found here, as I believe is very frequently the case, that the sequestrum was unequally covered by new bone; that, whereas it was almost completely encased below, at the upper part it was only partially covered with new bone.

The progress of the case justifies the most sanguine expectation as to the result.

A few observations may be permitted on this case. The peculiarity of it, by which it is distinguished from other cases on record, is, that the disease having begun in the ankle-joint, led most fortunately to anchylosis, and thus a great source of constitutional irritation was removed; without this truly fortunate occurrence, I cannot see how it was possible to save the limb. The progress of the case in the shaft of the bone requires no special comment. I cannot but believe that, in all such cases, it is most desirable to give sufficient time for the formation of a firm, bony case, before the operation of removing the sequestrum is undertaken. The difficulty of the operation is certainly enhanced by delay; but I think the security of the limb is promoted. Much must, however, depend on the peculiarities of each case; and it is a point of the highest importance, that the strength of the patient should be brought to the highest standard possible, before any operation is undertaken."

Art. 136.—*Cicatrization of Ulcer of the Leg favoured by Lateral Incisions.* By Mr. Gay, Surgeon to the Royal Free Hospital.

(*Lancet*, May 28, 1853.)

The patient upon whom this mode of treatment was practised was admitted into the Free Hospital in January 1853. He was 48 years

of age, suffering from an extensive sore in the front and sides of the leg, beneath the calf. He stated that the ulcer commenced thirteen years before admission; but within that period it had almost healed on several occasions when he had been able to give it *entire rest;* but that on resuming his occupation (that of a labouring man) it used to spread again to its present size. On admission, the ulcer extended almost around the leg, was deep, and inclined to be sloughy. The patient had suffered so severely, and lost so much time through the sore, that he was exceedingly desirous to have the limb amputated. From this, however, he was dissuaded by Mr. Gay, who had him put to bed, and commenced treating the ulcer in the simplest manner. Healthy granulations sprung up, and in the course of two months the sore had healed, excepting a portion over the front of the tibia, about the extent of half-a-crown piece. This obstinately refused to close, although various methods were devised for the purpose of exciting it to do so, and it continued stationary for about a fortnight. At this stage, the site of the original sore immediately surrounding that which still remained had the following appearances:—For some distance beyond the edges the cicatrix was of a pearly-whitish character, and the skin thick and firmly adherent to the tibial periosteum; beyond this the integuments had a more healthy appearance, but displayed a darkish areola, which extended itself almost around the leg. The soft textures at this part of the leg appeared tense, and this portion of the limb itself was somewhat lessened in size, evidently from the traction which the cicatrix, in the course of its formation, had made upon the surrounding parts.

Under these circumstances, and as the poor man was still desirous to lose his leg, Mr. Gay determined on putting into execution a plan which had occurred to his mind in consequence of observing the mode in which apertures of the soft palate closed. Mr. Gay considers that these sores heal, partly by the addition of a new matter to the edge, and partly by traction on the surrounding tissue; and refuse to heal any further when the neighbouring textures are incapable of yielding to the traction of the edge. In the present case the healing of the sore appeared to proceed so long as the traction at its edges was responded to by the surrounding tissues, but it ceased when the maximum of yielding had been attained. Mr. Gay, consequently, made an incision two inches and a half long, close adjoining the edge of the ulcer, through the sound skin and fascia, parallel to the long axis of the leg. It gaped a little at the time it was made, but the wound became much wider in a very short time, especially on the side towards the sore. The latter, from the time the incision was made, commenced to heal, rapidly advanced towards complete cicatrization, and was quite closed up in a fortnight. The wounds made by the lateral incisions cicatrized with great rapidity, and the patient has now a perfectly sound leg.

Art. 137.—*On Excision of the Os Calcis.* By H. Martineau Greenhow, Esq.

(*Medico-Chir. Rev.*, July, 1853.)

In an original memoir on this subject, Mr. Greenhow gives the particulars of twelve cases in which the operation has been performed. In ten of these the operation was successful; in the remaining two, the limb had to be amputated subsequently. In the successful cases the patients were able to walk with only a very slight halt, and the shape of the foot was not materially disfigured.

The operation was first performed by Mr. Hancock, of Charing Cross Hospital, but Mr. Greenhow, the father of the author of the paper, was the first to make the matter public, and therefore he may be considered as having equal claim to the merit of originality. Mr. Greenhow has operated four times.

PART III.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING MIDWIFERY.

ART. 138.—*Menstruation and Superfœtation.* By Dr. MATTHEW DUNCAN.

(*Edinburgh Monthly Journal*, May, 1853.)

AT a meeting of the Edinburgh Physiological Society, held in March, 1853, Dr. Duncan, exhibited a dissection of a gravid uterus, at about the end of the second month of pregnancy. He pointed out the mucous structure of the decidua vera, and of the decidua reflexa, and the open state of the Fallopian tubes and cervix uteri up to this period. The adherent plug of cervical mucus was also well seen.

The preparation illustrated the possibility of the menstrual discharge, which occasionally occurred in early pregnancy, being derived from its ordinary source, the lining membrane of the cavity of the uterus. This might be the source of the discharge till the cavity of the uterus was completely occluded by the contact and coalescence of the decidua vera and reflexa, which took place in the third month of pregnancy. The only obstacle to the issuing of the discharge from the uterus was the cervical mucus. But this was also present in the unimpregnated organ, and had to be displaced or opened up for each ordinary menstrual period.

On the same grounds, Dr. M. Duncan believed that superfœtation, might take place up till some time in the third month of pregnancy. The communication between the vagina and the ovaries was quite free up till that time. By supposing the first child in a case of superfœtation, born at the end of the seventh month, and already viable, and the second to have been conceived in the end of the third month of the pregnancy of the former, an interval of five months is gained between the births of viable children, a space of time that will include and explain most authentic cases of this occurrence.

Dr. Duncan also made some remarks on the fanciful notions of authors as to the function of the decidua reflexa, in regulating the motions of the ovum on its entrance into the uterus, and endeavoured to show that they were untenable.

Art. 139.—*Anteflexion of the Uterus, a normal condition prior to Pregnancy.* By M. Boulard.

(*Rév. Méd. Chir.*, xiii, p. 341; and *Medico-Chir. Rev.*, Oct. 1853.)

A few years since, a very animated discussion took place at the Académie de Médecine, upon the subject of engorgement of the uterus. M. Velpeau was one of those who maintained that anteflexions of the uterus are often mistaken for engorgements, while other speakers declared anteflexion itself to be a very rare occurrence. M. Boulard, engaged in searching for examples of the deviation for Velpeau, was at once struck by the frequency of its occurrence in young subjects, while in older ones he scarcely ever met with a case, without, from the examination of the other organs, ascertaining that the subject of it had never been pregnant. After in this way collecting a great number of uteri from the dead-house, M. Boulard resolved to study the point during the development of the organ, and found that the uterus is almost always anteflexed in the fœtus. He has continued to pursue the investigation from that period; and the present paper is founded upon the examination of 27 adult female subjects who had never borne children, 19 young girls from two to thirteen, and 57 full-timed fœtuses. In 98 of these anteflexion has been found, and to such a point is the body bent upon the neck, that it is not possible to prevent its regaining the same position immediately after the attempt at replacing it has been made. Since these observations have been made, the author has sought every opportunity of verifying them in the living subject; but he has only had ten opportunities of examining the position of the uterus in the virgin, and in all of these the anteflexion existed.

M. Boulard accounts for this disposition having been overlooked by anatomists, by the fact that the bodies of women who have borne one or more children are those which are usually brought for dissection; and the organ is examined only after it has undergone this physiological change, or under the influence of the relaxed state of the tissues after death. When anteflexion has been noted, it has been considered as an abnormal and diseased condition, and regarded as a cause of suffering which was due really to some morbid condition which had become accidentally associated with it.

Art. 140.—*On a New Method of inducing Premature Delivery.* By M. Scanzoni.

(*Medical Times and Gazette*, Oct. 1, 1853.)

The author was induced, by observing the active sympathy between the breasts and the other parts of the sexual apparatus, to try to produce premature delivery by irritating the nerves of the mammary glands. The first experiment was made upon a young woman, æt. 24, who, two years ago, had been delivered by perforation, in consequence of contraction of the pelvis. In the 32d week of utero-gestation, an apparatus, constructed of caoutchouc, forming sucking-pumps,

were put upon the nipples. During three days this was used about seven times, the process going on upon each occasion for two hours. After the third application, the neck of the uterus became shortened; after the sixth, severe labour-pains came on; after the seventh, the child was born.

The only danger likely to ensue from this very simple method of treatment is inflammation of the mamma; this can be met with proper treatment.

A second case, of a similar kind, occurred to the author. A young woman, *enceinte* for the first time, suffered so severely from dyspnœa, connected with organic disease of the chest, that premature delivery was necessary for the preservation of her life. After the third application of the sucking-pump, an apparently dead child was born; respiration was, however, soon re-established. The author remarks, that this case is not quite conclusive, because premature delivery occurs often in connection with severe dyspnœa, independent of other influences.

Art. 141.—*Dry-cupping a Substitute for Ergot.* By Dr. Washington, (U.S.)

(*Assoc. Med. Journ.*, May 27, 1853.)

The 'Charleston Medical Journal and Review' for January, 1853, quotes a paper on this subject from the 'Nashville Journal of Medicine and Surgery,' of which we give an abstract.

Dr. Washington has recently discovered that dry-cupping, applied to the lower part of the sacrum, produces dilatation of the os uteri; and, applied higher up, contraction of the uterus.

In a case, where the pains had endured fourteen hours, without producing any perceptible effect, in consequence of rigidity of the os uteri, Dr. Washington applied a dry-cup as low down on the sacrum as possible, so as to cover the origin of the nerves to the os uteri. Complete relaxation ensued; at the next pain the head descended to the outlet; and at the second pain the patient was safely delivered; and that in less than ten minutes from the application of the cups. In tedious labour, the cup should be applied first to the lowest point of the sacrum, and if, in the course of ten or fifteen minutes, the patient is not delivered, another should be applied higher up, so as to cause the uterus to contract. *The lower one should always be on when the upper one is applied, so as to insure relaxation* of the os uteri when the pains come on.

In retained placenta, the cups are to be applied higher up, so as to cause the uterus to contract at once, the relaxation of the os uteri being always sufficient after the fœtus has passed.

When ergot is administered, the woman is delivered by main force, without any relaxation except that produced by the pains. By dry-cupping, two or three pains are sufficient, and the amount of suffering is not more than ordinary.

Art. 142.—*Case of Spontaneous Version.* By John W. Tripe, M.D.

(*Medical Times and Gazette*, April 30, 1853.)

Cases of this kind are always interesting, and this case more than ordinarily so, because there is reason to agree with Dr. Tripe, in believing that it was originally one of back-presentation. The fact, that both shoulders were engaged in the pelvic cavity, and that an arm had been brought down in the belief that it was a leg, gives support to this idea. Dr. Tripe writes:

A person came to me, informing me that a woman, who had been in labour since Monday last, required immediate assistance. On my arrival, I found the patient suffering with sharp and quick labour-pains, an intensely flushed face, furred tongue, with a dry, brown tip, and rather quick pulse. I was also informed, that the midwife who had been in attendance had ruptured the membranes on Monday (to-day being Thursday), labour having commenced on the Sunday evening. It had been considered a breech-case, until one of the hands was protruded through the os externum. On looking at the hand, I found the cuticle peeled off, the child having evidently been dead for some days. On passing my hand to the presenting part, I was struck by finding both shoulders engaged in the pelvic cavity, so that I could pass my finger over the left shoulder, which was highest, into the corresponding axilla, although the right hand was external. Both scapulæ could readily be felt, their bases being quite close together, and, with some difficulty, the extremely dense and elongated neck could be traced upwards in a direction between the symphysis pubis and right acetabulum, the occiput resting on the linea ileo-pectinea, above the foramen thyroideum; the shoulders being placed obliquely, the right near the left sacro-iliac synchondrosis, and the left near the right acetabulum. On inquiry, I found that the arm had been pulled down, after which, the pains being strong, both shoulders had been jammed down as I found them. I then introduced my left hand into the uterus, for the purpose of turning, and, after great difficulty, succeeded in reaching the feet, which were situated just above the head, facing the mother's abdomen, the back being obliquely towards the spine. On using the necessary power to effect version, I found that it was chiefly expended on the head, which was then more tightly brought down in the linea-ileo pectinea, and that no power which I dared to use, for fear of injuring the bladder, would effect the object sought. The patient was so ungovernable, that I was compelled to desist, after a short trial. After a short interval, I attempted to reach the feet by passing my right hand over the head, and thus pushing it away from its position, but was again foiled by the unruliness of my patient. I then sent for a sharp hook to perform decapitation, and, in the interval, gently pushed up the left shoulder, the pains having gone off, so that the right arm, shoulder, and side, were made the lowest parts. I did this in the hope that, the pelvis being large, and the child small (eight months), and decomposed, spontaneous version might take place. On the return of the messenger the patient refused to allow me to touch her, and became very violent, but took some brandy and water. After the lapse of nearly half an hour, the pains returned, and, on the occurrence of the second, which was a strong one, she cried out, "The child is coming!" when I was just in time to receive the breech in my hand, the child being completely expelled by the same pain, the head being the part which came out last. I regret very much not having had an opportunity of tracing the whole process, but the patient would not allow me to make an

examination. After the child was born a rather extensive flooding occurred, from the placenta being slightly adherent, but it ceased on the removal of this organ.

ART. 143.—*Reposition of the Prolapsed Funis.* By Dr. FINCKE.

(*Monatsb. für Geburtskünde*, Bd. i, p. 437; and *Medico-Chir. Rev.*, Oct., 1853.)

The author relates five cases in which the plan he adopts has been attended with success. Passing the entire hand into the vagina, and catching the middle of the prolapsed coil upon the points of the fingers, he carries it as high up into the cavity of the uterus as possible, and leaves the funis supported between the posterior wall of the uterus and the parts of the child. If, however, he withdrew his hand as he passed it in, he always found the funis follow it; but by doing so in another manner, he has found it continue where he placed it. After detaching the funis, the hand, placed at the upper and posterior part of the uterus, is held horizontally, and withdrawn while describing about the fourth part of a circle forwards, and then bringing it downwards. If the funis follows it, it will have twice to form a right angle; but in his cases it has not done so, and the children have been born alive.

ART. 144.—*On Prolapsus of the Uterus and Vagina during Pregnancy and Labour.* By J. H. HOUGHTON, Esq., Surgeon to the Dispensary, Dudley.

(*Dublin Quarterly Jour. of Medicine*, May, 1853.)

Mr. Houghton relates a case of this rare disorder, and collects the particulars of fourteen cases of the same kind from the writings of Drs. Merriman, Davis, Ashwell, and Capuron.

CASE.—Mrs. S—, æt. about 26, had been much neglected in her first confinement, and had since suffered from prolapsus uteri. About November, 1850, she had retroversion of the uterus, followed by a miscarriage at the fourth month: since which time the uterus had descended daily, and had prolapsed every day during her present pregnancy, even to the day of her delivery. At times she had had considerable discharge from it; and she was aware of ulceration existing round the os. She had not had any medical advice for the prolapsus.

She was taken in labour with her second child, on November 13th, 1851, at four p.m. The pains continued feeble and infrequent till two p.m. the next day; and Mr. Houghton saw her at about four. The head presented naturally; the os uteri was dilated to about the size of a crown-piece; the passages were moist; the membranes had been ruptured twenty-four hours previously. On examination, the os uteri was found close to the outlet; the walls of the uterus, from the margin of the os to that part of the uterus against which the head of the child pressed, formed a cone three inches long, the apex downwards. The lips of the os were very thick, rigid, and unyielding; and indeed the whole of the cone presented the same character. The pains were regular and tolerably strong. As the labour proceeded, the whole mass, uterus and head, came down together, dragging with it the anterior wall of the vagina, and at length obliterating the anterior *cul-de-sac* of the vagina;

the tumour thus formed dilated the vulva. The descent continuing, and the os uteri scarcely dilating at all, the uterus came so low down that the anterior lip of the os uteri was pushed outside the vulva, and the anterior half of the os uteri and the posterior half of the vaginal orifice formed an elliptical opening, through which the child's head could be readily felt, and, if necessary, could have been seen. Still the os uteri continued firm and unyielding; and eventually the whole of the os, with an extraordinary *caput succedaneum*, protruded from the vagina.

Tartar emetic was given, and nausea kept up for about three hours. After this, 40 drops of laudanum were administered.

At eight p.m., the os uteri was rather larger than a crown-piece; the *caput succedaneum* protruded; the bones of the head pressed on the margins of the os, which were thick, hard, and very unyielding. The pains were strong. The anterior *cul-de-sac* of the vagina was obliterated with each pain, with a disposition of the whole os uteri to pass externally. For some time after the laudanum was given, the pains became more moderate, but they never ceased, and at ten p.m. returned sharply. The os was now more disposed to dilate, though still very firm and rigid.

Mr. Houghton determined to wait for dilatation, and in the meantime to prevent total inversion of the vagina. To effect this, he proceeded in the following manner. Having replaced the uterus and the vagina as well as he could, he watched carefully for each pain; and when it was about to commence, he passed the fingers of his right hand into the anterior *cul-de-sac* of the vagina, and the thumb of the same hand into the posterior *cul-de-sac*. The fingers and thumb thus embraced the os and the child's head; and while the latter was allowed to press on and dilate the former, he supported the whole mass in position, or nearly so. For some time the dilatation continued very slowly, and he could feel, from time to time, that abrasion of the anterior and posterior lips of the os had taken place. The os now very tightly embraced the head, the posterior lip being softish, the anterior very hard and thick. At about half-past eleven p.m., during a very strong pain, Mr. Houghton felt something suddenly give way, and the child was almost immediately born alive; laceration of the posterior lip of the os uteri having taken place to the extent of about an inch. No flooding followed. The uterus and vagina were prolapsed when the placenta was expelled. The uterus was easily returned: the patient was much exhausted; a stimulant and a dose of opium were given, and she was allowed to rest.

The patient went on favourably; but remained subject to prolapsus, which returned every time she sat up.

From a review of his own case and then of others, Mr. Houghton finds:

That two cases were primiparæ; four multiparæ; while in eight the number of pregnancies was not named. That in two cases the head presented; in twelve the presentation was not named. That in four cases there was great rigidity of the os; in ten, the state of the os was not mentioned. That in thirteen the prolapsus was complete; in one, this was not mentioned. That in one case venesection, tartar emetic, and opium, remedies calculated to remove rigidity, were used with benefit; in four, counter-pressure was used; in four, dilatation; in four, the mode of proceeding is not clearly related; in two, incisions were practised; in one, turning. In twelve cases the patients recovered (probably with prolapsus uteri remaining); in one, death occurred; in one, recovery without prolapsus. Rupture of the cervix uteri took place in one case.

The accounts of treatment of the disease are very meagre. Counter-pressure, dilatation, and incision, were the means most practised.

Counter-pressure seems applicable in all cases of prolapsus during labour; for on seeing the uterus and vagina protruded, and reflecting how the uterus is naturally suspended in the pelvis, it follows that by supporting the vagina with the tips of the fingers, and thus maintaining its *cul-de-sac*, a point is afforded from which the child or the membranes may press on and dilate the os.

Mechanical dilatation is objected to by Mr. Houghton, on the grounds that by its performance a risk is incurred of stimulating the reflex function of the uterus, and hence producing violent uterine action, and laceration of the cervix or body of the uterus.

Incision of the cervix is recommended by Mr. Houghton to be employed, after counter-pressure has been continued some time, and rigidity continues in spite of the ordinary means of overcoming it.

Art. 145.—*On Craniotomy and extreme deformity of the Pelvis.* By Mr. Greenhalgh.

(*Medical Times and Gazette*, May 21, 1853.)

In a recent communication to the Medical Society of London, Mr. Greenhalgh dilated upon the serious nature of the operation of craniotomy. He then related, the case of a dwarf, 25 years of age, four feet in height, and much distorted by rickets, upon whom craniotomy had been twice performed on account of great pelvic distortion, on the first occasion at the full term of pregnancy, on the second at seven months and a half of utero-gestation (at which period premature labour spontaneously set in), followed on each occasion by such severe inflammatory attacks as to threaten her life. The peculiarity of the author's case was that the patient, when informed that no living child could pass through the natural passages, positively refused, upon conscientious grounds, to submit either to the induction of abortion, premature labour, or any operation which might endanger the life of the child; consequently, it was determined, with the concurrence of several eminent obstetricians, that the Cæsarian section should be performed at the full period of pregnancy, shortly after the commencement of labour. The author, after some observations upon the induction of abortion, premature labour, turning, and the application of the long forceps in distortion of the pelvis, cited Case 35, in the Second Report, second edition, of Dr. Robert Lee's 'Clinical Midwifery,' as illustrative of the difficulties and dangers of craniotomy in great pelvic contraction. Having pointed out the painfulness and hazard to the mother of craniotomy in such cases; the too frequent destruction thereby of the child; that the mortality from the Cæsarian section was due rather to the delay in its performance than to the operation itself; that the rate of maternal mortality had been progressively decreasing; and that great strides had been made of late in our knowledge of abdominal surgery, the author expressed his opinion, that where the dangers from these two operations are so nearly allied, as in cases of extreme deformity of the pelvis, it is the bounden duty of the obstetrician to endeavour to save the child's life by the performance of the Cæsarian section.

ART. 146.—*On the Use of a Vertebral Hook in some cases of difficult Delivery.* By HENRY OLDHAM, M.D., &c., Obstetric Physician to Guy's Hospital, &c.

(*Lancet*, May 14, 1853.)

For some years past Dr. Oldham included amongst his obstetric instruments a hook designed to run a short distance within the vertebral canal, and there, by a secure and ready hold which it acquires upon the arches of the vertebræ, to form a powerful tractor and effective instrument for delivery. This vertebral hook is of simple construction; its length is fourteen inches, of which four inches are taken up in the handle, which is roughened on the surface, and sufficiently large to afford a good grasp. A straight steel stem well fixed into the handle, and gradually tapering to the extremity, is bent at an acute angle, the free point being fined off at the edge to facilitate its being fixed. The bent part forming the hook is half an inch long, and projects at such an angle that it easily traverses the upper part of the vertebral canal in a mature or even seven months' fœtus, and, if well made, is quite enough to bear, without yielding any degree of traction by the hand. When using it all that is necessary is to seek for the foramen magnum, and to push the hook within it. The cord breaks down before it, and when within the canal it only requires a slight rotatory movement to be made to find it fixed firmly on the arches. The best way to demonstrate the use of this instrument is to run it into the vertebral canal of a fœtus already delivered by craniotomy, when the ease with which it becomes fixed, and the difficulty of removing it when once it is fixed, will at once be seen. The upper part of the vertebral column forms an excellent point for traction, as the force is well kept on that part of the skull, which next to the presenting parietal bone, it is best to keep the lowest. The hold too is so firm, that there is not the same necessity as with the crotchet for counter-support with the other hand and finger, and consequently there is less need of vaginal manipulation.

The vertebral hook does not supersede the crotchet or craniotomy forceps, as in a majority of cases these instruments, and especially the former, accomplish delivery as safely and expeditiously as circumstances permit. But in some cases of unusual difficulty it comes greatly to our assistance. Dr. Oldham found this to be the case where there has been considerable pelvic deformity, associated, it may be, with rigidity of the soft parts in a first labour; and, if labour has gone on for long, with inflammatory congestion and great tenderness of the vagina, or œdema of the labia and perinæum. The prolonged efforts with the crotchet which some of these cases require, gradually break away the bones to which it has been applied, and still the head, if the deformity is in the conjugate diamater, may remain above the brim. Further attempts with the crotchet involve a good deal of handling, and occasion considerable pain, although its full power and efficiency is not tried until it has been applied outside the head, or on the edge of the orbit, where a good purchase may be obtained. In these ex-

hausting cases, both to the patient and practitioner, a vertebral hook is a valuable resource.

This hook is of essential service too in cases where the trunk of the fœtus has been removed and the head left behind, whether it be designedly, after severing the one from the other, in an arm presentation, or when, in attempting to extract a fœtus by the feet, in a deformed pelvis, the neck has given way in the efforts to bring the head through the brim. Dr. Oldham had to deliver the separated head under both these circumstances.

Art. 147.—*Cases of Cæsarian Section.*
By (1) M. Stoltz; (2) M. Aerschodt; and (3) M. Sack.

(1) *Gaz. Méd. de Strasbourg*, March, 1853; (2) *Annales de la Société de Méd. d'Anvers*, March, 1853; (3) *Schmidt's Jahrbücher*, No. 8, p. 195, 1853.)

Two of these cases were completely successful, the third was successful only so far as the child was concerned.

1. M. Stoltz's case. *In which the Child's Life was saved at the expense of the Mother's.*—A woman, æt. 37, who had already had five easy confinements. Soon after the birth of her fifth child, she had experienced what she thought to be rheumatic pains. These increased greatly during her fifth pregnancy, when she became unable to walk without support. For two years she had been unable to sustain herself in the erect posture. Her back had recently become considerably bent. On examination, the promontory of the sacrum was found to rest literally upon the sacrum, and there was no possibility of effecting delivery by the crotchet. Under these circumstances, the Cæsarian section was undertaken, but not until she had been in labour for three days. The operation was unattended with any accident. No blood was lost. The child breathed and cried immediately. Four twisted sutures were employed. For the next twenty-four hours everything went on well, when the patient became restless, and disquieted, her vital heat failed, and in spite of all efforts to relieve her, she sank ten hours afterwards. After death, there were no signs of either inflammation or hæmorrhage. The pelvis and the bones generally were greatly distorted. This case happened in 1846.

2. M. Aerschodt's case. *In which the Lives of both Mother and Child were saved.*—The patient, whose age is not given, fell in labour of her first child on the 1st of December, 1851. She was very rachitic, and the sacro-pubic diameter was not more than five centimetres. The operation was performed after the labour had been in progress for twenty-four hours. Some difficulty was experienced from the protrusion of the bowels, but eventually this was overcome, a vigorous child was extracted, and the external wound was closed with four twisted sutures. The first two days passed without accident; the day following, symptoms of milk fever, with tympanitis, and some erysipelas about the wound made their appearance, but these passed off, and on the tenth day, the wound was perfectly healed, except at its inferior extremity. In a month the patient was well.

3. M. Sack's case. *In which the Lives of Mother and Child were saved.*—The patient was in her 22d year, and in her first confinement. The pelvis was greatly deformed. The child's head was unusually impacted in the inlet, but the outlet was so distorted as to make any further progress impossi-

ble. The mother being extremely anxious to save the child, the Cæsarian section was performed. On dividing the parietes the omentum was found stretched across the intestines, and not to be displaced. On dividing this there was considerable hæmorrhage. This, however, was checked after some little delay, and the child was delivered, though not until some considerable force had been employed to free its head from the pelvis, into which it had been impacted. Eight twisted sutures were used to close the external wound. Symptoms of peritonitis followed the operation, and the wound had to be partly opened to allow a quantity of bloody serosity to escape, but in the end the symptoms subsided, and the patient recovered, without any further difficulty, though tediously.

Art. 148.—*Cases of Hæmorrhage after Delivery, accompanied by severe After-pains.* By Francis H. Ramsbotham, m.d., Consulting Obstetric Physician to the London Hospital.

(*Medical Times and Gazette*, March 26, 1853.)

It is generally believed, and with truth, that the more strongly the uterus contracts after delivery, the less chance is there of hæmorrhage occurring; and the greater, therefore, is the safety of the patient in respect to that source of danger. This aphorism, however, only applies to those cases in which the uterus is empty; if it contain any solid body—a polypus, a portion of placenta adhering to its surface, a large piece of the fœtal membranes, or even a mass of tough, fibrinous coagula—it may contract most powerfully—indeed, inordinately—with much more pain than usually attends its action after the child's birth; and yet, at the same time, there may be such a discharge of blood flowing as to place the patient's life in imminent peril.

These cases are embarrassing to the young practitioner, especially as there exists among authorities on the obstetric science, a great diversity of opinion in regard to the treatment of floodings after the removal of the placenta; and this want of concord must necessarily tend in no small degree to confuse his judgment. Some, as Denman, Dewees, and Robert Lee, think the introduction of the hand for the purpose of clearing the uterine cavity too harsh a measure to be admissible under such circumstances; while others, as Burns, Collins, Gooch, Merriman, and the late Dr. Ramsbotham, describe the proceeding as being not only safe in itself, if carefully performed, but as the speediest and most effectual means of averting the impending danger. Others, again, as Blundell, Ingleby, and Churchill, think it should never be attempted, unless there be "inexorable need," or "a very pressing emergency," or till "all other means have failed."

The fact that Dr. Ramsbotham saw the first seven cases which he relates in one year, is a proof that they are not very rare, but that they are met with often enough to make them well worthy of special consideration.

"Case 1.—On February 2d, 1833, at five a.m., I was sent for to Mrs. S—, æt. 32, in the neighbourhood of Drury-lane. She had been in labour of her first child for two days, the membranes having broke on the first accession of pains; and she had been rather officiously treated, for her attendant had

exhausted his stock of ergot, had given her a considerable stock of gin and water; she had taken two large doses of laudanum; and he had been rubbing some extract of conium on the cervix uteri; he was about to bleed her when I arrived. I found her walking about the room, unable to sit from the pressure of the child's head, and looking weary. She had not slept for two nights, but the pulse was under 90, and there was no indication of exhaustion. The os uteri was not quite dilated, though the head was low in the pelvis; the scalp was puffy and swollen; the vagina and perinæum very rigid; and the pains were frequent and irritating. I ordered her a little effervescent medicine, and directed that she should be kept quiet on the bed, and that the external parts should be fomented. At two p.m. I ascertained that the pains had been much more natural and efficient since the meddlesome practice had been discontinued; the os uteri was entirely dilated, the vagina much more lax, and the head extending the perinæum. The child was born at three. The placenta was expelled naturally in fifteen minutes, but the uterus soon relaxed, and a quantity of blood collected within its cavity. Pressure and cold caused it to contract; still there was a draining of coloured serum going on, and the uterus was acting at intervals very strongly, with much pain. After waiting nearly half an hour, without any relief to the symptoms, during which time she became rather faint, I introduced my hand fully into the uterine cavity, and removed four or five ounces of firm, fibrinous coagula. The draining then ceased, as did the pains also; and she soon went to sleep. It was necessary to introduce the catheter once the next day; but she recovered perfectly well.

Case 2.—On April 27th, 1833, at two p.m., I was requested to see a patient of the Royal Maternity Charity, who had been delivered of her first child by one of the midwives, about two hours before, after an ordinary labour. The placenta came away without assistance, in less than half an hour; but the uterus relaxed; and she flooded much. The midwife had used cold applications and compression of the viscus; and although these means had produced strong contraction, attended by unusual pains, they had not put a stop to the discharge. The patient was complaining of acute suffering each time the uterus acted, was faint, pale, and in a state of jactitation. I therefore introduced my hand at once into the cavity, and took away a mass of firm coagula, the size of a man's fist. The violent pains ceased immediately; the bleeding was stayed; and, after experiencing for a few days a pulsating pain in the head, she gradually recovered."

Mr. Ramsbotham relates the particulars of five other cases of the same kind, in all of which there was a draining of blood going on at the same time that the uterus was firm and comparatively small, and while the after-pains were frequent and powerful,—a condition of things usually described as being incompatible with dangerous hæmorrhage. In all there was a considerable quantity of heavy, tough coagula within the cavity, and in all the pain ceased immediately on the uterus being emptied, the discharge almost invariably ceasing about the same time.

Art. 149.—*Chloroform in Puerperal Convulsions.* By Dr. Van Buren.

(*American Quarterly Journal of Medicine*, July, 1853.)

At a meeting of the New York Medical and Surgical Society, held

in April last, Dr. Van Buren reported a case of puerperal convulsion, in which he had employed chloroform with advantage. The case was the first confinement of a lady twenty-five years of age.

During gestation, she had enjoyed her ordinary health, except on the evening preceding the attack, when she had retired with a head-ache. Her physician who was sent for at half-past one o'clock A. M. had found her in a convulsion. Labour had not commenced. An hour later Dr. Van Buren was called, and found her in her third convulsion. On examination per vaginam, it was ascertained that the os uteri was beginning to dilate. Chloroform was immediately given, and after a time the convulsions were relieved, when it was "let up," and the convulsions again returned. Its use was again resumed, and she was kept under its influence until about six o'clock A. M., at which time the os uteri was found to be sufficiently dilated to admit of interference. The forceps was applied, and the delivery speedily completed. The patient was then left in a comfortable condition. Another convulsion, however, came on shortly afterwards, and they recurred every twenty minutes, except when chloroform was given, which controlled them. Other appropriate remedies were resorted to, but the anæsthetic was mainly relied upon. Its use was continued until a few hours before death, which occurred fifty-two hours after the first seizure. During all this time there was no secretion of urine. The child is alive and doing well.

ART. 150.—*Intestinal Irritation in Child-bed.*

By FLEETWOOD CHURCHILL, MD., M.R.I.A.

(*American Journal of Medical Science*, April, 1853.)

An epidemic of this kind was rife in Dublin in 1851. Ten cases fell under Dr. Churchill's notice, of which the two following will serve as examples.

CASE 1.—Mrs. —— was confined of her tenth child in July, 1851. The labour was natural, the lochia and milk secreted amply, and she progressed favorably until the eleventh day. On the morning of that day, on which she was to leave her bed for the first time, before attempting to rise or dress, and without the slightest apparent cause, she was attacked with a rigor followed by heat and sweating. The pulse became quick, and remained at about 100. The tongue became furred and white; the bowels flatulent and constipated. The milk, which had been abundant, almost entirely disappeared. The uterus was neither enlarged nor painful, nor was there any tenderness on pressure. The lochia continued natural in character, though diminished in quantity. A day or two afterwards, the bowels, which had been freed by medicine, became too much relaxed, accompanied by a most distressing amount of flatulence and frequent griping pain. The pulse very slowly diminished in frequency, and the milk gradually returned. Throughout, the uterus and its secretion were apparently unaffected. On the morning of the eighteenth day the patient appeared much better, nearly convalescent; but, in the course of the day, she had another rigor, followed by fever, which subsided after twenty-four hours, like an attack of weed. From this time her convalescence was uninterrupted, though slow, and the milk was ultimately restored to its usual abundance.

Case 3.—Mrs. M. was confined about the same time as the last case, under the care of Mr. Morgan. Her labour, which was natural, was followed by smart hæmorrhage. About the third day, she was seized with violent pain in the abdomen, increasing in paroxysm to an intense degree; there was no rigor; but the pulse rose to 120; and the skin became hot, but there was no thirst; the breasts were full, and the lochia natural. Although the abdomen generally was tender on pressure, there was no peculiar tenderness over the uterus. A full dose of laudanum relieved the pain to a certain extent, and the bowels were freed by medicine. We then applied the mercurial ointment, on lint, over the abdomen, and a poultice over it, and gave small doses of calomel, Dover's powder, and James's powder, three times a day. The next day she was much better; pulse 110; tongue coated; the skin cooler; some pain and flatulence, with uneasiness on pressure; milk and lochia natural; the day after she was attacked with violent diarrhœa and severe pain in the bowels, accompanied with great exhaustion, so that we were obliged to give wine, and had some difficulty in controlling the bowels by means of opiates, astringents, anodyne enemata, &c. After we had quieted the bowels by these means, and relieved the pain, the pulse continued for some days above the natural standard. In other respects, the convalescence proceeded quite satisfactorily.

On the general characters of the epidemic Dr. Churchill remarks:

1. The attack, in all cases but one, occurred within a week after delivery; in one case it came on the second day; in others on the third, fourth, or fifth day. In the exceptional case, it occurred on the eleventh day; and it is worth notice that, for other reasons, this lady had not left her bed up to that time. In no case could I trace the attack to any special cause, exposure, imprudence, or errors of diet; but there was evidence in some of the cases that the bowels had not been carefully attended to during pregnancy; and perhaps I may be allowed to make a remark for the benefit of my juniors: it may, and not unfrequently does, happen that the bowels may be moved daily during pregnancy, and yet that an accumulation of fæcal matter in the large intestines may accumulate to a considerable extent. I remember a case in which I traced the colon across the abdomen by its enormous fæcal distension, although the lady had complained of diarrhœa during pregnancy. In such cases, a kind of artificial channel is formed through or on one side of the fæcal mass. In all cases, therefore, it is necessary that we should be sure that the bowels are amply freed, and not merely moved.

2. In three cases only did the attack commence with a rigor, and in these it was not very severe but sufficiently well marked. In two cases only was the rigor repeated, and in both at the interval of a week; the second attack lasting twenty-four hours, and resembling weed exactly.

3. The most striking symptoms in all the cases were the pain and diarrhœa. The former came on rapidly, increasing in paroxyms, and continued until relieved by medicine. It was always general over the whole abdomen whilst severe, but as it declined, it was felt more in one part than another; I think most frequently in the left iliac region. After the first severe attack was relieved, all the patients complained of frequent flatulent pains, with great discharges of flatus. Along with, and in proportion to the amount of pain was the degree of

tenderness; but it was remarked that after the first impression of pain, the pressure, if equal and firm, was rather a relief; also that the uterine region was less tender than any other part of the abdomen. It is worth noting, that in no single case did nausea or vomiting occur, but that in all there was diarrhœa, even in those in which the bowels were confined at the commencement of the attack, or in which large doses of opium had been given for the relief of the pain. The amount varied; in some the discharges were few, but large and unhealthy; in others they were very numerous, and followed by great exhaustion.

4. The pulse was invariably quick at first, generally 120, sometimes 140, and gradually subsiding as the distress diminished. In a few cases they continued quick for many days, and excited much uneasiness. Its frequency was accompanied by heat of surface at first, which, however, soon diminished. In most cases there was a good deal of perspiration, and in one or two it was excessive. The absence of thirst was rather remarkable in all cases, except just after the exhibition of opium. The tongue was coated with white fur, but neither loaded nor dry.

5. In every case but one, the secretion of milk was unaffected, the breasts remaining or becoming pale and hard. In the exceptional case, the milk, which had been abundant, was completely suppressed for a time, but ultimately restored.

6. The lochiæ were generally diminished or suppressed for a few hours at first, but they speedily returned, and occasionally had a heavy smell for a day or two, after which they became natural and healthy.

7. I have already mentioned that, in two of the cases, there occurred a repetition of the rigor followed by heat and sweating, like an attack of weed.

8. As a general rule, the attack lasted about a week; few were convalescent earlier, and one or two were protracted a few days longer.

9. I need not say that the diagnosis was a matter of extreme anxiety to me, beginning, as the attack did, with so much resemblance to puerperal fever, and presenting such formidable symptoms. However, one thing was clear, that, whatever else I might have to treat, I had undoubtedly to deal with a severe attack of intestinal irritation, as was shown by the pain, its fluctuations in seat, and its paroxysmal character, and which was confirmed by the occurrence of diarrhœa. So far was clear; but then arose the question as to whether there might not exist enteritis or peritonitis, and some support to this view was afforded by the rigor, the quick pulse, and the tenderness; but then the pain was shifting and paroxysmal, which is not generally the case in either, and the tenderness was superficial, and not increased by prolonged pressure. Add to this, that the decided improvement in the course of twenty-four hours negatived such a supposition. There then only remained the question of how far the uterine system was involved; and, as I found no particular tenderness over the uterus, and no enlargement of that organ, that the lochia, if modified for a few hours, shortly resumed their natural character; and lastly, that the secretion of milk was abundant and unchecked, I come to the conclusion that the uterine system was unaffected; that no inflammation

existed in the peritoneal serous membrane or in the intestines, but that the attack was one of severe intestinal irritation, with accompanying fever, from some unexplained cause. In this the stomach did not participate, as neither nausea nor vomiting occurred, and merely that loss of appetite which was necessarily the result of so much disturbance.

10. The treatment was simple enough and very successful. The first object was to relieve the pain by large, and if necessary, repeated doses of opium by the mouth, or by enemata of laudanum and starch, and externally by poultices of linseed-meal alone, or with flour of mustard. When relief was obtained, if the bowels had not been sufficiently moved, I gave a dose of castor oil, but had I known that diarrhœa was to follow as it did, I need not have done this. I then, as a safeguard, gave small doses of calomel or gray powder, with Dover's and James's powder, three or four times a day, and in two or three cases applied the mercurial ointment to the abdomen underneath the poultices. When the attack was more familiar to me, I omitted the mercury, and in all cases left it off when I found the uterus unscathed, but I continued the James's and Dover's powder, and the poultices, until all pain and uneasiness had disappeared. The flatulence was relieved effectually by camphor mixture, with aromatic spirit of ammonia, compound spirit of ether, and tincture of orange-peel. I kept the patients on low diet at first, of course, and I found it necessary to be very cautious in increasing the nourishment for some time, as a meal was very apt to be followed by pain and flatulence.

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 151.—*On the Etiology of Mammary Abscess.* By M. NELATON.

(*Rév. Méd. Chir.*, xiii, 169, 1853; and *Medico-Chir. Rev.* July, 1853.)

M. Nelaton states that, as the result of his examination of the history of a great number of these cases, he is very sceptical as to the truth of the supposition which attributes their occurrence to exposure of the breasts. He believes that abscesses are very often due to the existence of chaps or sores of the nipple, whence the irritation is propagated along the lymphatics of the organ—just as a wound of the foot or hand will give rise to inflammation in the vicinity of the glands of the groin or axilla. Once excited in the breast, the inflammation may become speedily propagated to the deeper parts of the organ. M. Sappey's preparations of the lymphatics exhibit the great abundance of these vessels, which almost all arise at the nipple or areola, spreading and ramifying from this common centre in all directions along the fibrous partitions of the gland. Another important point is the pretty direct relation which exists between the situation of the chap and that of the mammary inflammation. If situated at the upper part of the nipple, the inflammation will usually be found at the upper part of the breast, and so on for the other localities.

The case which immediately gave rise to these observations also led to another, of interest in relation to *diagnosis*. The puncture, after

having at first furnished pure, healthy pus, yielded a sanguinolent pus on compression two days afterwards. It may be laid down as an *absolute rule*, that whenever an abscess at the surface of the body thus comports itself—the fluid taking on a bloody appearance without obvious cause—a second abscess has become developed in the vicinity of the first. Our attention being thus directed to this point, we shall usually be able to discover this second tumour. The wall interposed between the two collections becomes the seat of great turgescence, and of a considerable afflux of blood; and a sanguineous transudation takes place into the first cavity.

ART. 152.—*Case of Congenital Occlusion of the Vagina.* By G. L. UPSHUR, M.D., Surgeon to the Marine Hospital, Norfolk, U.S.

(*Phil. Med. Examiner*, Aug. 1853.)

Cases of this kind are fortunately very rare, and not more than six appear to have been reported during the last thirty years. The operation in this case is like one performed by M. Amussat, under similar circumstances, in 1836, except that Dr. Upshur completed his operation at once, whereas M. Amussat made three or four separate attempts at intervals of three days.

The subject of this case was a negro girl, aged 18, the property of Dr. Southall, of Smithfield. She was admitted into the Norfolk Slave Infirmary, October 8th, 1852.

About eighteen months ago, she commenced to have symptoms characteristic of the approaching catamenia, recurring every four weeks with great regularity, and continuing at each return about four days, but without any discharge from the vagina. A round, well-defined tumour had gradually appeared above the pubes, becoming larger after every return of the menstrual symptoms, and giving the appearance, when she entered the infirmary, of one advanced to the fourth month of pregnancy. Eight months ago she began to suffer from distension, and recently the pressure of the tumour upon the rectum and bladder has given her a great deal of pain. There are, also, evident contractions of the uterus, as if it were making a strong effort to get rid of its contents. These symptoms have been so severe and so continuous for the last two months as to unfit her for work, and oblige her to remain almost constantly in the recumbent position. The patient was well grown, and the mamma and external genitals fully developed, the clitoris and labia being of the ordinary size and shape, and the pubis covered with hair.

She stated that she had repeatedly felt the venereal desire, and four times had attempted to consummate the venereal act, but without success. Upon examination, the finger passed into the vagina only about an inch and a half, being arrested by a firm, thick septum, perfectly smooth, and offering a complete barrier to further ingress. By pressing upon the tumour when the finger was in the vagina, fluctuation could be easily felt, On introducing one finger into the rectum, and a catheter into the bladder, and inclining the former upward, and the latter downward, the finger came in contact with the catheter just behind the terminus of the vagina, nothing appearing to be between them but the coats of the rectum and bladder. The tumour could also be felt from the rectum, sinking low down into the pelvis, and giving decided fluctuation when gently struck.

The introduction of the speculum showed that the vagina was perfectly

formed, *as far as it went*. There was no enlargement at its uterine extremity —no *cul-de-sac* formed. It seemed as if nature had lacked for materials to form an entire vagina, but as far as she progressed she had done her work perfectly.

The operation was performed on the 15th of October. The bladder and rectum being first evacuated, the patient was placed upon the table, as in the position for lithotomy, except that the hands were not bangaged to the ankles. Chloroform was then administered, and, as soon as she became insensible, the speculum was introduced up to the termination of the vagina, and distended the parts as far as possible. The instrument was held in position by an assistant, who, at the same time, made pressure upon the uterine tumor. A second assistant retained a catheter in the bladder, in such a position that it could easily be touched with the forefinger of the left hand introduced into the rectum. Considering that in the space bounded by the rectum and bladder, and the vagina and os tincæ, there was nothing but cellular tissue, Dr. Upshur desired to have such guides in the operation as would prevent him from wounding any portion of the pelvic viscera, his object being to make a passage up to the os tincæ, directly in a line with what would have been the axis of the vagina had it been complete. The tumour above, and the finger and catheter behind and in front, performed the part of such guides.

The operation was commenced by perforating the centre of the obstruction with an ordinary trochar, which was pushed in to the depth of an inch, and the opening widened by a crucial incision with the scalpel, so as to admit the forefinger of the right hand. The speculum was now withdrawn, the finger introduced, and the obstructing tissue *torn* in every direction. The dense and unyielding nature of the tissue rendered this part of the operation tedious and difficult.

The way being opened as far as the finger could reach, the speculum was again introduced, passing in this time about four inches, and being arrested apparently about an inch short of the os tincæ. Pressure being still made upon the tumor, Dr. Upshur carefully divided layer after layer with the scalpel, until he reached the os tincæ, a fact which was immediately made known by an abundant flow of a fluid resembling tar in colour and consistency, and perfectly inodorous.

The hips being lowered so as to promote the discharge, the patient was left for four hours. At the end of this time thirty-two ounces had been discharged, and the flow was still going on *with regular uterine contractions*, which continued for twelve hours, until every particle of the secretion had come away. The whole quantity amounted to forty-eight ounces, or about three pints. The patient having rallied entirely at the end of eight hours, was put to bed, and ordered half grain of morphia, and perfect quiet to be observed.

Oct. 16th.—Patient rested well last night, and feels tolerably comfortable this morning. Pulse 80, soft and regular; tongue natural, and appetite good. Upon examining per vaginam, the uterus could easily be felt. The organ was larger than it is in the unimpregnated state, and the os sufficiently patulous to admit the end of the finger. In other respects, there was nothing remarkable about it. The patient did not complain of pain from the introduction of the finger, nor was there the slightest soreness from pressure over the abdomen. In the evening, finding that no urine had been discharged since the operation, thirty ounces were drawn off by the catheter. Ordered milk and bread diet in small quantities.

17th.—Had a restless night, with slight shivering and thirst. Soreness upon pressure over the whole abdomen, but particularly in the hypogastric

region. Pulse 110, moderately full; skin dry; tongue covered with white fur; anorexia; thirst; bowels constipated, and vaginal discharge whitish, and beginning to be fetid. Salines were given; and the vagina was ordered to be syringed with warm water, acidulated with vinegar, three times a day. Warm fomentations to the abdomen.

18th.—Less soreness than yesterday over the abdomen. Vagina very tender to the touch; discharge purulent; bowels moved once; complains bitterly when the syringe is introduced. The same treatment.

19th.—General symptoms as yesterday. Vagina hot and tumefied; discharge very fetid; great pain upon introducing the finger; urine drawn off night and morning since the day after the operation. The same treatment.

20th.—Parts very tender, and very little discharge from them. Chloroform was administered, and a minute examination made with the speculum. Vaginal surface intensely red, swollen, and bleeding upon the slightest touch. Os tincæ scarcely discernible for the tumefaction around. In the evening there was some increase of fever, and the patient complained of great soreness. Fifteen grains Dover's powder were given at bed-time.

21st.—Patient passed a very restless night. Intense pain over hypogastrium, pulse 112; small and compressible; thirst; dry skin; decubitus on the back, with legs drawn up. Ordered a dozen leeches to the back, and a grain of calomel, and a third of a grain of opium and tartar emetic every two hours.

22d.—No improvement. Bowels constipated; pulse 120, feeble; tongue dry; agonising pain along the sacrum; some tympanites. The treatment: Ordered an enema of soap-suds and castor-oil, which produced one evacuation, with comparative relief. Hot fomentations around the hips and hypogastrium.

23d.—Fever continues. Discharge from the vagina is *sanious* and fetid; pain in the sacrum somewhat relieved. One grain of quinine added to each of the pills. Injections (vaginal) of pyroligneous acid, laudanum and water. Fomentations.

Evening.—Pulse 130, and feeble; pain diminished; tongue moist, and coated white; discharge from the vagina free and sanious; bowels moved once; patient sleeps, and is sweating profusely; when aroused says she feels very weak. Continue treatment, with milk toddy.

24th.—Patient ptyalised; pain greatly diminished; pulse 100, small, but fuller than yesterday; no appetite, but partakes freely of milk toddy and soup; sanious discharge still going on. Medicine discontinued.

25th.—All the symptoms better; passed urine to-day of her own accord, the first time since the operation; discharge from vagina less, but still sanious.

From this time the patient improved rapidly, so that on the 5th of November Dr. Upshur was able to make a very thorough examination of the vagina. The lacerations had healed entirely, but there was so much contraction as barely to admit the forefinger up to the os tincæ; the constriction, however, was dilatable, and he introduced a sponge tent. In the course of a few hours this gave so much pain that it was removed by the nurse, but was again introduced on the next day, and borne with less inconvenience.

On the 12th November catamenia again returned, and continued until the 17th, the quantity and colour being natural. During the flow, of course the tent was not worn, nor was any examination made. On the 20th Dr. Upshur found that the contraction of the upper end of the vagina had increased; it would scarcely permit his forefinger to pass. The sponge tent was continued until she left the house on the 27th. He informed her master that she was not in a condition to go without treatment, and that unless the process of

dilatation was continued, there would be a risk of the vagina becoming again closed. When she left the infirmary, the forefinger, by exercising a moderate degree of perseverance, could be passed up to the os tincæ. The constriction yielding to persistent pressure like spasmodic stricture of the urethra.

On the 27th of April last the patient was again sent to the infirmary. She stated that, until two months before, she had regularly had her monthly flow, although the discharge was less free, and accompanied with less pain than formerly. She had been under no treatment since her discharge, the use of the tent having been discontinued from the day she left the house. Upon examination it was found to be impossible to reach the os tincæ, although there seemed to be an opening up to it. The speculum was introduced, and an attempt to find the opening made with a probe, but without success. No tumor could be felt from the rectum, nor fluctuation through the vagina, and yet there was reason to believe that there was menstrual blood locked up in the cavity of the uterus.

A second operation was contemplated, but it was deemed expedient to communicate with her master first. Before the receipt of his answer, however, the patient was seized with a profuse discharge from the vagina of dark, grumous blood, more fetid than the pus from a rectal abscess. The discharge came on suddenly in the night, May 5th, and continued for five days, with entire relief to all the symptoms. Before any further examination was made, a message was received from Dr. Southall, that her services were required at home, and that he would not have another operation performed yet.

ART. 153.—*On the Use of Cinnamon in certain Examples of Menorrhagia.* By T. H. TANNER, M.D., Physician to the Hospital for Women, &c.

(*Lancet*, Oct. 15, 1853.)

Amongst the numerous cases of menorrhagia, writes Dr. Tanner, which come under my notice in hospital and private practice, instances are not unfrequently met with where no satisfactory explanation can be given for the increased catamenial flow. Of course, amongst these, patients suffering from general plethora, from hæmorrhage caused by polypi, either within or without the uterus, or from that dependent upon fibrous tumours, uterine hydatids, ulceration (simple or malignant), or upon a watery condition of the blood, are not included. In the instances alluded to, I have almost always been unable, after careful examination, to say upon what the menorrhagia depended, since no physical alteration could be detected in either the uterus or ovaries; it has only therefore been practicable to assert what were *not* the causes.

The symptoms usually presented are briefly these: the catamenia appear regularly every twenty-eight days, and are at first only of the proper quantity; but, instead of ceasing after a duration of three or four days, they continue unabated for ten or fourteen, and occasionally even for three weeks. The general symptoms which arise from this debilitating discharge are just such as might be expected. There is general weakness, languor, mental depression, with pains in the head, loins, and so on; the patient suffering, it is to be remembered, not from any diseased condition, giving rise to the hæmorrhage, but merely from the loss of blood itself. In other instances the discharge con-

tinues a less time, but the flow is more abundant, clots being frequently discharged; this variety is generally followed by leucorrhœa. My own experience tends to show that these forms of menorrhagia occur more frequently in unmarried than in married women; but, for many reasons, and especially because of the class of patients from whom my observations are for the most part deduced, I would not say positively that such is the case.

Ailments of this class are at all times troublesome to cure, but those I am considering are particularly so, from the absence of any special indications for treatment. In some of them, indeed, it appears at first sight, only necessary to keep the patient quiet, to administer astringents, especially such as act particularly upon the uterus, and to regulate the diet, in order to give the desired relief. But it will often be found that these means are quite inefficient, and the acetate of lead, gallic acid, the ergot of rye, oxide of silver, sulphuric acid, tincture of sesquichloride of iron, and similar remedies may be employed without any avail. In thinking over these cases I was led, from a remark made by Dr. Pereira, to try the use of cinnamon. In the last edition of the 'Elements of Materia Medica,' this gentleman says, when speaking of cinnamon, that "some writers regard it as acting specifically on the uterus," (vol. ii. p. 1307), and reference is then made to the writings of Sundelin and Wibmer. As far as I know, these are the principal authors who have recommended the use of this agent; for I am not aware that mention is made of it by gentlemen who have written on obstetrics and the diseases of women in this country. Having thus been led to try the effects of this agent, and having derived the most beneficial effects from its employment, I have felt desirous of making its value more generally known, that its utility may be tested on a large scale.

That its beneficial action is really due to some specific effect which cinnamon exercises upon the uterus, and not any astringent property it may possess from the tannic acid which the bark and leaves of it contain in common with all the lauraceæ order of plants, is, I think, certain; and partly in confirmation of this view, it may be mentioned, that in a case of labour in which I employed it, it *appeared* not only in a marked manner to increase the severity and rapidity of the pains, but the patient, who had in her previous labours suffered severely from flooding after the birth of the placenta, on this occasion lost only a very small quantity of blood. That this fortunate circumstance was due to the administration of the cinnamon I do not of course pretend positively to assert; the case is merely mentioned to give some colour to the opinion expressed that this agent acts specifically upon the uterus. Much clearer evidence of its value in such cases of menorrhagia, as I have described, is, however, easily obtained. The principal points I would now refer to are, that it acts after the failure of other astringents; that it is most efficacious given alone, uncombined with other medicines; that if its employment be discontinued too soon, the discharge of blood returns; while, in a few instances, it has been found necessary, after an apparent cure, to resort to its employment for the two succeeding catamenial periods, when the menstrual flow, after continuing for three or four days, has not given any signs of abate-

ment, and when the patient has begun to suffer from mental depression and the early symptoms of general debility. The form usually employed, and which appears to be the best, is that of the tincture, in drachm doses, using cinnamon water as the vehicle; it should be taken about every six hours, but not more frequently, as it is apt to give rise to nausea and vomiting. It is also better to continue its administration for about fourteen days after the symptoms which called for its employment have disappeared; and even then, if the case has been an obstinate one, a draught composed of it should be taken once daily for a month.

ART. 154.—*A comparison of the Statements and Facts advanced by the leading Uterine Pathologists on the Nature and Source of Leucorrhœal Discharges.* By E. HARRIS, M.D., Physician to the New York City Dispensary.

(*New York Journal of Medicine*, Sept., 1853.)

The principal points that claim our examination for comparison, may be included under the following heads:—

1st. *The Nature and Source of Leucorrhœal Discharges.*

It is well known that Sir C. M. Clark based his divisions of uterine diseases upon the colour and appearance of the discharges accompanying them. He states that the white opaque mucous discharge "belongs to one condition of the uterus only, and that it characterises that condition with marked constancy." This white discharge he believed to originate only from the glands of the cervix uteri; while he taught that the transparent mucous discharge was secreted only in the vagina. We need not be told that Dr. Clark made his investigations without a speculum; for all who are familiar with dioptric examinations of the vagina and cervix uteri, know, from actual observation, that the secretion from the cavity of the cervix is a glairy, transparent mucus, while that bathing the vagina is white and curdy, or milky. All who have examined this subject, must agree with Dr. Tyler Smith and Mr. Whitehead, concerning the facts which their investigations have demonstrated in reference to the nature and origin of leucorrhœal discharges.

2d. *The Physiological Alterations and the Structural Lesions which are the Proximate Causes of Leucorrhœa.*

That the mucous tissues of the genital organs should be subject to an abnormal degree of secretion might certainly be expected, especially when we consider the wonderful sympathies which exist between these organs and the nervous system and the mind, as well as with the various viscera of the abdomen. It was from these relations of the uterus that the ancients accounted for leucorrhœa, and in our own time, the doctrines of the reflex nervous pathology are made to account for this and almost all other manifestations of disease. Whatever may be the relative importance of this class of causes, they certainly are not among the least. But there are physiological alterations and lesions of structure that are found very constantly in connection with leucorrhœa. 1st, engorgement of the uterus or of its

cervix; 2d, congestion and inflammation of the utero-vaginal mucous membrane; 3d, excoriation and ulceration of the cervix uteri; 4th, a peculiar abnormity of the glandular structures of the canal of the cervix, probably depending upon other and more general pathological conditions of the uterine organs, or of the whole body.

Sir C. M. Clark was perhaps the first to propound a rational pathology of the uterine diseases attended by discharges. In the first part of his treatise he describes a series of uterine affections, which are attended by a transparent gelatinous and glairy discharge, usually not very abundant. The diseases mentioned in this class, are, procidentia uteri, p. vesicæ, and p. vaginæ; the fleshy tubercle or fibrous tumour, and also a class of cases in which he considers that there is increased action or simple congestion of the vessels of the uterus, and a still larger class in which this engorgement has become chronic. In the second part of his treatise, Dr. Clark very accurately describes the general symptoms of a class of cases affected with the disease of the cervix uteri, of which he believes that a white amyloid mucous discharge is prominently symptomatic. "In many instances," he remarks, that "this white mucous discharge is much thicker than cream, having the tenacity of glue, and an appearance corresponding with the mucus that is separated from the cervix uteri at the commencement of labour." Mark this admission concerning the occasional character of this mucus, and also the following fact stated by Dr. Clark: "Women are the most liable to the *white* mucous discharge between the age of twenty, and the period at which the menses cease," the period during which the glandular portion of the cervix uteri is most liable to disease. We refer to these observations of Dr. Clark, 1st, because we may rely upon his general and minute accuracy; and 2d, because his ideas concerning the nature of the discharges and their pathological causes, are really correct, though erroneously conceived. The real nature of leucorrhœal discharges is now more fully understood, and the description given of them by Dr. Tyler Smith is perfectly accordant with all that has been observed by the best pathologists. Now, by referring to the descriptions given by Dr. Clark, and comparing them with those of Dr. Smith, we find that they are perfectly harmonious, as also are their opinions of the pathology of leucorrhœa, so far as Dr. Clark's views are expressed. The errors into which Dr. Clark has fallen concerning the origin or seat of certain forms of leucorrhœal discharges, are certainly not greater than is the following statement of Dr. Henry Bennett, concerning the creamy discharge so often presented in females suffering from disease of the cervix. Dr. Bennett confidently asserts, but erroneously we think, that "the white, milky, creamy fluid which is so commonly met with in females, and which has given the name to vaginal discharges generally, is the secretion of the numerous mucous follicles which cover the cervix, and probably also, of the follicles existing in the upper part of the vagina." Our own observations concerning the chemical characteristics of uterine and of vaginal mucus, and the changes which the transparent cervical mucus undergoes in the vagina, fully correspond with the observations which have been made upon this subject by M. Donné, Mr. Whitehead, and Dr. Smith.

3d. *The Nature of these Structural Changes that are denominated Ulcerations and Granulations of the Cervix Uteri.*

MM. Recamier, Lisfranc, Dupuytren, Duparcque, Gendrin, Gibert, Kennedy, Murphy, Locock, Roberts, Bennett, and a host of the most intelligent pathologists, have, during the last thirty years, with the aid of the speculum matricis, pursued their investigations of uterine maladies, and have uniformly found that peculiar lesions of the muco-genital tissues are very constant attendants on chronic leucorrhœal discharges; and they have found that when these lesions have been healed, the leucorrhœal and all other symptomatic difficulties disappear. These pathologists have chosen to denominate these structural alterations, ulcerations, granulations, &c.; and, at the same time, they have frankly admitted that these alterations do not differ from abrasions, erosions, aphthæ, morbid vascularity, granulations of the conjunctiva, &c. On the other hand, Dr. Robert Lee and others have felt that this faulty definition of uterine ulceration is a dangerous evil, that the search for ulcerations by means of the speculum was at once improper and immoral, and that this false definition, and the special curative means based upon it, led to faulty and dangerous practice. Dr. Lee, Dr. Ashwell, and Dr. Tyler Smith, find, on looking over their notes of cases, only about one case of ulceration in fifty of uterine disease; but they have all observed the frequency of certain peculiar alterations, exactly similar to those designated ulcerations, &c., by Dr. Bennett and the French pathologists. Here the controversy between these parties should have ceased; but it is still going on, and the musty records of every dead-house and hospital in London are being searched for evidences of the infrequency of ulcerations of the cervix uteri. Of the infrequency of *excavated* ulcers of the uterus there can be no doubt. I have seen but five or six cases in more than a thousand examinations by speculum, of patients applying at this dispensary for the cure of leucorrhœa. But there is a form of granular inflammation of the mucous membrane of the cervix uteri, which is very frequently met with; besides this, all who use the speculum will more frequently observe epithelial abrasions, excoriations, and vascular engorgement of the mucous membrane, or of the body of the cervix. Simple epithelial abrasions and excoriations cannot properly be termed ulcerations; while the granular inflammation is more properly a disease of the villi of the mucous follicles of the cervix and os. All observers agree in their general descriptions of the latter affection, and M. Chomel has very appropriately denominated it the granular, or raspberry inflammation. It is, perhaps, the most frequent form of structural alteration that has ever been observed in cases of leucorrhœa. The principal pathological element of these granulations is an abnormal vascularity of the villous structure of the follicles of the os and cervix uteri. This morbid condition is most frequently observed in the os or within the cavity of the cervix, though we meet with a considerable number of cases in our public charities especially, in which there is found upon the exterior of the cervix, patches of abraded epithelium, and sometimes covered with irregular and luxuriant granulations; but these cannot be considered as ever being the seat of leucorrhœal discharge; and to me

they appear to be mere accidents, or events in the history of more important diseased conditions, either local or constitutional; and if our observations and study of uterine affections have not deceived us, the same facts hold true in reference to the abnormities so often observed in the cavity of the os and cervix. We have for some time been of the opinion, that a very large proportion of the cases in which the canal of the cervix is found in that morbid condition usually denominated ulceration, or granulation, the real and only pathological alteration of the part consists in an abnormal vascularity and hypertrophy of the glandular structures of the cervix, with or without high inflammatory action. A very satisfactory proof of this may be seen in that morbid condition, which Dr. Kennedy has denominated the "cock's-comb granulation," and also in the bleeding ulcer of the cavity of the cervix.

There is a peculiar form of ulceration, so called, which is frequently seen in our examinations at this dispensary, usually observed in those females in whom we can trace the history to an attack of syphilis either in their own persons or in their children. It is usually situated upon the anterior lip of the os uteri, and it very strikingly resembles, and, indeed, is frequently co-existent with the syphilitic mucous tubercle, situated upon other parts of the body. Its form is usually circular, is sometimes highly vascular, bleeding when touched, and sometimes quite insensible, and possessing little vascularity. We have seen such patients treated solely with caustics, &c., without permanent benefit, while we have never known a case fail of cure where an anti-syphilitic course has been thoroughly followed. There can be but little doubt of the syphilitic origin of this form of granular inflammation, though Dr. Bennett very deliberately sets aside this supposition, and attempts to disprove the correctness of M. Gibert's conclusions on this subject.

4th. *The Constitutional Relations and Complications of Leucorrhœa.* These have been very attentively studied by Dr. Marshall Hall, Sir Charles Clark, Dr. Robert Lee, Dr. Ashwell, and others. Whatever success in the treatment of uterine affections may have been achieved by the aid of the speculum and the use of the cautery, it is a fact fully corroborated by the experience of the best practitioners, that the constitutional relations of uterine diseases, and especially of those in which leucorrhœa is a prominent symptom, are of primary importance. The teachings of Sir Charles Clark, and Dr. Marshall Hall, may be taken as reliable authority upon this subject; and the recorded experience of even Dr. Bennett, Dr. Kennedy, and those who regard the *local* treatment of primary importance, goes, so far as results are known, fully to corroborate the remark we have just made concerning the importance of the constitutional relations of uterine maladies.

On reading the statements of Chomel, Lisfranc, and Bennett, we might be led to believe that with the speculum and a well-armed *portécaustique*, the cure of leucorrhœa, &c., might easily be effected at once by a very simple local treatment; but we believe that a close investigation of the facts in the practice of those who have boasted of superior success in an exclusively topical treatment of these

uterine affections, will but furnish additional evidence of the primary and indispensable importance of constitutional and hygienic treatment in this interesting class of diseases.

It is true that Chomel and many others have averred that the caustic is a specific cure for uterine affections accompanied by leucorrhœa; but these gentlemen admit that the granulations, ulcerations, &c., are liable to return; and so far as we have been able to ascertain, these local lesions are very sure to return, unless other and more general agencies are brought to bear upon the health, habits, and the general hygienic conditions of the patient.

Having thus sketched and compared the most important facts connected with the pathology of those diseases of the cervix uteri attended by leucorrhœal discharges; let us now deduce those facts and principles which may be of the highest practical importance to us as physicians.

1st. Leucorrhœa is a prominent and very constant *symptom* of local congestive and inflammatory affections of the uterine organs, especially of the os and cervix uteri, attended more or less, constantly by structural lesions, and by important constitutional complications, of which the local affections may be either resultant or causative.

2d. That whatever be the anatomico-pathological lesions, and whatever the constitutional complications existing in cases of leucorrhœa, the most common and the most important seat of the leucorrhœal discharge, is in the highly vascular glandular structure of the canal of the cervix uteri.

3d. That from the extensive and all-controlling sympathetic relations of the uterine organs, it is found that any morbid changes in these organs, whether primary or secondary, re-act unfavorably, and with great certainty, upon the general health, especially upon the digestive organs and the nervous system; and *mutatis mutandis*, the same principle holds true of primarily unhealthy conditions of the nervous system, the digestive organs, &c., as causative of uterine disease.

4th. And consequently, that in the curative treatment of any affection that is complicated with any form of uterine disease, it is indispensably necessary to attend to the constitutional relations of such disease, while it is equally important to address suitable remedial agencies directly to the local alterations, or lesions of the uterine organs.

5th. That the most extensive and reliable experience of the medical profession has demonstrated the utility and essential importance of attending to the local, as well as the constitutional treatment of those diseases of females attended by discharges; and that to do this properly and efficiently, the highest interest of the patient demand the appropriate use of dioptric instrumental examinations of the seat and nature of the local lesions.

Art. 155.—*Creasote Injections in Leucorrhœa.* By M. Arendt.

(*Floriep's Tagesbericht*, No. 627, 1853.)

In an article upon the advantages resulting from the internal and external use of creasote in certain hæmorrhages and mucous discharges,

M. Arendt states, that he has generally been able to cure ordinary cases of leucorrhœa in three or four days by weak injections of creasote—two drops to the ounce of water—repeated twice or thrice a day.

Art. 156.—*Collodion in Ulcerations of the Cervix Uteri.* By M. Aran.

(*Bull. Gén. de Thér.*, June 15, 1853; *Assoc. Med. Journal*, May 27, 1853.)

M. Aran employs collodion with success in certain cases of ulceration of the neck of the uterus, especially those which depend on, or are kept up by, the friction of the vagina against the cervix, directed either forwards or backwards. An illustrative case is related of a woman, æt. 29, who was admitted into the Hôpital de la Pitié, who had for two years suffered from headache, dyspepsia, leucorrhœa, and dragging pains in the lumbar and hypogastric regions. These symptoms had for six months become much more severe. On examination, M. Aran found the uterus in a state of anteversion; the neck was large and extensively ulcerated, principally at the posterior part, which was directed towards the hollow of the sacrum. Rest, slight cauterisation from time to time, with nitrate of silver, baths every two days, poultices, enemata, and emollient injections, were tried for more than three months, without any marked result. When lying down, the patient did not suffer; when erect she was troubled with dragging sensations in the loins and hypogastrium. M. Aran applied collodion over the cervix, by means of a brush. The patient only felt a slight burning sensation when the speculum was removed. Three days afterwards, most of the collodion had remained, and the ulcer, which could be seen through it, appeared to be rapidly progressing towards cicatrisation. The application of collodion was repeated three times within a month; and at the end of this period, cicatrisation was nearly complete. At the same time, the dragging in the loins and pains in the stomach had diminished, and the leucorrhœa had completely dissappeared. The patient walked without pain or difficulty; her general health seemed excellent; and, with the exception of a little weakness in the loins, and some heaviness of the head, she felt quite well.

Art. 157.—*On the Operative Treatment of Uterine Displacement.* By M. Valleix, Physician to the "Hôpital de la Pitié," at Paris.

(*Des Déviations Uterines, Leçons Cliniques, &c.*, 8vo, Paris, 1852; and *Charlestown Med. Review*, July, 1853.)

The following remarks are from a review of M. Valleix's lectures in the Charlestown Medical Review for July 1853. They are of considerable importance, for here, as in America, the prejudice against mechanical interference in these cases has prevented that unprejudiced examination of the question which its importance demands. The reviewer was a former pupil of M. Valleix, at La Pitié.

"Some persons use the speculum when introducing the sound, which may aid those who are unpractised in this little operation, in reaching

the orifice of the cervix. In this case the speculum should be withdrawn as soon as the os is reached, for it would after this prevent the free movement of the sound. I never use the speculum, contenting myself with the aid of the index finger of the left hand, placed upon the orifice of the cervix, upon which I glide the instrument. * * *

Once within the cavity of the cervix, the sound should be directed in the axis of the superior strait, supposing the uterus to be in its normal position; and if the progress of the instrument be arrested by the valvular folds of the mucous membrane, gentle motion should be imparted to its extremity until it reaches the internal orifice, where considerable resistance may be experienced, and acute pain produced. From the extreme sensibility resident in this spot, the operator always knows when it is reached, and (even when the smallest instrument is used in the most favorable condition of the cervix producing no sensation to the patient) unpleasant symptoms, sometimes amounting to constitutional disturbance, are occasioned. When the sound is fairly within the cavity of the body of the uterus, sensation ceases, and is not again evoked until the fundus is touched, when a peculiar kind of pain is felt, which, according to the expression of patients, *goes to their hearts*. It is easy to assure ourselves, however, that every portion of the cavity of the uterus is sensible, by touching it with the end of the sound, and, if after having passed the internal orifice of the cervix, sensation ceases, it is only because the sound glides between the walls.

"If you meet with considerable resistance from the walls of the uterus, before reaching the fundus, it is because there is a displacement, and then, instead of endeavouring to penetrate in the normal direction, you should incline the extremity of the sound in the direction in which a tactile examination may lead you to suppose the displacement exists. If there be retroflexion, for example, the concavity should be directed backwards, and not forwards, and the sound should be made to describe an arc of a circle passing through the handle, having its centre in the extremity, which, consequently would rotate upon itself; thus having its direction changed without wounding the uterine walls in any way." The sound having thus taken the proper direction, the uterus adjusts itself as it advances, so that the retroflexion, which I have taken as an example, is transformed into retroversion when the sound reaches the fundus.

When the sound is fairly introduced, the displaced organ should be redressed, in doing which we should always act with gentleness, giving to the sound a movement opposed to that by which it was introduced.

"I ascertain the depth of the uterus, by retaining, when I withdraw the sound, the index finger of the left hand on the point which corresponds to the external orifice of the cervix, thus supplying the place of the slide of M. Hugnier. For it is important to know the exact depth of the uterus if we wish to apply the intra-uterine *redresser*, the stem of which should be a little less than this depth."

"I would recommend you, besides, to combine tactile examination of the uterus with the introduction of the sound. The finger introduced within the vagina to guide the instrument should explore the cervix, estimate the thickness of its circumscribing walls, and while the sound maintains it fixed, should recognise certain sinuosities which

may exist in it and without this would remain unknown, and judge if any tumours exist in the neighbourhood, and, especially, if they remain fixed when the uterus is moved."

"In all cases where the repeated employment of the sound has not sufficed to effect a complete cure, it will be necessary to have recourse to the uterine redresser. The one which I employ consists of a metallic or ivory stem—destined to penetrate the uterine cavity—of from five to six centimetres in length, according to the depth of the organ—attached to a metallic disc of two centimetres in diameter, upon which rests the cervix uteri. The stem and disc are united by means of a spring with another stem of metal, which, because resting in the vagina, has received the name of vaginal stem. The spring uniting these two portions, is similarly arranged to that which is adapted to a poignard-knife—maintaining at pleasure the two portions either in a direct line or at right angles.

"The vaginal stem is grooved out to receive a rod which unites it at right angles with a plate adjusted to the abdominal walls. The axis of this last piece is parallel with the uterine stem, and the movements impressed upon it are communicated to the other when the apparatus is in place. The whole is retained in position by tapes passing from the anterior portion above the hips, fastening behind, and others drawn under the thighs and attached to the former."

Our limits forbid us following M. Valleix in his description of the various apparatuses which have been used, and the effects of their application. We can in general terms only allude to the results of his treatment.

The introduction of the uterine stem within the cavity of the uterus produces the same effects as that of the sound. During the first four or five hours the patients complain of griping pains similar to those which announce the approach of labour, which cease and recur at intervals for two or three days, not reappearing until the return of the next menstrual period, when M. Valleix invariably removes the instrument to be again applied if the displacement is not cured. He has found that the presence of a foreign body within the cavity of the uterus during the menstrual flow increased it to such an extent that anemia and its concomitants were generally induced. Some women, who from some cause or other did not have their flow regularly, were able to retain the instrument for forty-eight or forty-nine days continuously, while others could not retain it longer than twenty-four or thirty-six hours without experiencing the most violent pains with constitutional disturbance. To effect a cure, he says, it is not necessary to await these symptoms, for the most excellent results have been obtained by a treatment of one or two days' duration.

Prof. Simpson allows the redresser to remain during the menstrual period, and he reports a case in which it remained for ten consecutive months without producing unpleasant consequences, and another in which, from dread of a return of the displacement, the patient would not consent to its removal for more than a period of three years.

Of the 68 cases treated by M. Valleix, 44 were completely cured, 4 ameliorated, and 9 were still under treatment, leaving 11 unrelieved.

The antiquity of the displacement did not appear to retard the

cure. Of the various forms of displacement, *anteversion* offered the most difficulties, which may be accounted for by the fact that it is only an exaggeration of the normal position, and the uterus cannot be sufficiently removed during treatment from the abnormal direction, to counteract the tendency to return.

In only 3 cases, after the lapse of ten months, did a return of the displacement occur under the influence of a new cause, shewing the vicious tendency still existed. After fifteen days' treatment, the uterus resumed its normal position and the patients were again restored to health. In 30 cases, nine months have elapsed without return of the affection. In the majority more than a year, and in others two years, and even two and a half have passed, and although many have been exposed to fresh causes—such as falls, &c. the uterus has maintained its normal position.

Such have been the general results obtained by the treatment of M. Valleix, of which the principal precautions to be observed, in his own words, are the following: 1. "To employ in all cases the *sound* as a means of preparation for the *redresser*, which must be perseveringly continued for a reasonable time, until a cure is effected; 2. To employ as short a stem as possible: and it is rare that one of more than four centimetres is required to maintain the uterus in position; 3. To remove the *redresser* when febrile symptoms occur, or, in the majority of cases, when evident signs announce the approach of the menses."

Art. 158.—*On the Treatment of Prolapsus Uteri by Retroflexion.* By M. Seyfert.

(*Vierteljahrschrift für die Prak. Heilk.*, 1st bd., 1853.)

M. Seyfert proposes to treat prolapsus uteri by retroflexion, thinking that the latter evil is far less serious in its consequences than the former; but there is great reason to suppose that he underrates the evils of retroflexion. He relates three cases of prolapsus, in which a great improvement in the general health and comfort was brought about by the accidental occurrence of retroflexion, during a treatment by cold douche and recumbency, and on the strength of these he recommends that retroflexion should be induced intentionally, by the same means, or, in case of failure, by the sound.

Art. 159.—*New Operation for the Cure of Prolapsus Uteri.* By M. Desgranges, Senior Surgeon to the Hôtel Dieu, at Lyons.

(*Gaz. Méd. de Paris*, Jan. 29, and Feb. 12 and 26, 1853.)

The instruments used by M. Desgranges are small self-closing curved forceps, furnished at the end with projecting teeth; a holder resembling a pair of lithotomy forceps, but having the end of one branch channeled, for the purpose of applying the small curved forceps; a trivalve speculum; a lithotomy gorget; a pessary to distend the vagina; and a double T bandage.

Operation.—The patient, having been prepared by rest, bathing, gentle purgatives, and an enema, is placed on her back, with her thighs widely separated. The trivalve speculum is then introduced, with the handle turned towards the pubis, and the valves are separated to a circumference of about six inches. The vagina usually projects between the blades; but sometimes, when the tissue is less lax, it remains stretched. The cervix uteri must be carefully looked for, as it may lie between the valves of the speculum, like the portions of the vaginal wall.

Through the speculum, the vaginal forceps, with strings passed through their handles, are introduced by means of the holder, and, by strongly pressing on the handles of the latter, the blades of the forceps are separated. They are then placed on the projecting membrane of the vagina; and, by relaxing the hold of the handles, they are made to take firm hold of the tissues. Each projection between the blades of the speculum, or, as is sometimes found, each flat portion between them, may receive two or three of these forceps, so that from six to nine altogether are applied. The speculum being withdrawn, the pessary is introduced, and is firmly fixed by means of some turns of a double T bandage, of which the vertical bands meet the transverse one at the level of the hypogastrium: each of the vertical bands turns over the upper part of the thigh, to rest on the great trochanter. The string which attaches the pessary to the bandages ought to be rather behind than in front, as the passage of urine may otherwise be impeded or prevented by the pressure of the urethra against the pubis. The strings attached to the forceps are collected, tied together, and fastened to the bandage. The patient is then put to bed, and perfect rest is enjoined. The forceps generally fall off from the fifth to the tenth day, sooner or later, according to the size of the fold of membrane which they have seized.

This operation is repeated on other parts of the vagina, the speculum being employed until the walls no longer project between its valves, or its being opened causes pain or hæmorrhage. The gorget or finger must then serve as a conductor. The gorget is passed in on the finger to the part intended to be operated on, and is turned with its convexity towards the vaginal wall. The vaginal forceps, fixed in the holder, are then introduced along the groove in the gorget. When they have arrived at the end, the conductor is withdrawn, and the forceps are made to seize the membrane. When the finger is used, the forceps are introduced along it, taking care that the finger be not wounded. On arriving at the destined spot, the blades are separated, and pressed against the vaginal wall.

The instrument is most easily applied on the posterior wall of the vagina; with more difficulty on the lateral walls; but, in regard of importance, the lateral walls have the preference. M. Desgranges has never made more than *ten* applications of the instrument. He says that the surgeon must be guided by circumstances in judging of the proper number of applications, but that it is better to make too many than too few.

The pain, he says, is not great, unless the cervix uteri be seized: pain then is severe, radiating to the loins and abdomen. The free ex-

tremities of the forceps may cause excoriations, unless the tissues be protected by diachylon plaster.

Results of the Operation.—The febrile reaction is slight, and of short duration, and requires no treatment beyond low diet.

When the forceps have fallen off a small suppurating wound is left. By digital examination small hemispherical projections are felt, varying from the size of a pea to that of half a nut.

The vagina gradually loses its calibre and its mobility. At a later period it becomes covered with glandular bands; the narrowing goes on until the finger can scarcely be introduced without a disagreeable sensation. In process of time the nodosities become smaller, and even disappear; the vagina regains its suppleness, and, with the exception of its calibre, it returns far towards the normal state. The cervix is in the axis of the vagina; and the contraction affords no impediment to *coitus* or to delivery, as has been proved in one case.

Art. 160.—*Practical Remarks upon Polypi of the Uterus.* By M. Helfft.

(*Medical Times and Gazette*, Oct. 1, 1853.)

The fact that uterine polypi grow rapidly during the period of gestation, and constitute a very dangerous complication, makes it advisable to remove even small polypi, when they are discovered, although there may have been neither hæmorrhage nor symptoms of pressure. When a polypus is seated at the neck of the uterus, and protrudes into the vagina, it can give rise to hæmorrhage during pregnancy; or it may lead to abortion; or, at a later period, it may interfere with delivery. If it be in the uterine cavity, dangerous symptoms occur, for the first time, after the birth, when hæmorrhage takes place; or the uterus becomes inverted; or the polypus forms a swelling which closely resembles, and may even be mistaken for, an inverted uterus.

A polypus, discovered in the early months of pregnancy, of moderate size, and attached by a narrow peduncle, can be removed by torsion. Usually this operation has but little effect upon the uterus. When the polypi are larger, and are attached by a broader base, the ligature is unnecessary; but, in this case, inflammation of veins is a possible occurrence, or there may ensue a direct absorption of the putrid matter caused by the strangulation of the ligature; abortion, too, is to be feared.

Polypi within the uterus do not occasion any serious inconvenience during pregnancy, in spite of the great size which they sometimes acquire. It is only after the removal of the placenta that their presence becomes known, by the swelling which still remains. In lucky cases, the polypus comes down of itself into the vagina a longer or shorter time after delivery, either without hæmorrhage or any unfavorable symptom, or attended with severe pain and copious loss of blood. When the presence of an intra-uterine polypus has been made out, it is best to leave the organ to itself, should it be disposed to contract, in which case there is no fear of hæmorrhage. When, however, severe

bleedings come on, the polypus must be removed, either by torsion, or by the ligature and the knife.

ART. 161.—*Case of Fibrous Tumour of the Womb removed by Incision and Enucleation.* By T. P. TEALE, ESQ., Surgeon to the Leeds Infirmary.

(*Medical Times and Gazette*, Aug. 20, 1853.)

1. "The practicability of enucleating some fibrous tumours of the womb, previously established, and further confirmed by this case, is a fact of great importance in the treatment of those fibrous masses which protrude from the interior of the womb, without having a peduncle or a well-defined neck. Although enucleation has been previously practised, I am not aware of the modification of the process by incision having been hitherto adopted. By the transverse incision of the investing membrane at its upper part, the trouble of enucleation is greatly diminished. I may also remark, that the process adopted in this case, as compared with the incomplete separation of the mass by ulceration consequent upon the application of a ligature, was a great saving of constitutional effort, as well as a much more complete removal of the disease.

2. In cases of large tumour of this kind, where it is impossible to determine by the fingers its mode of attachment, we may, by traction downwards, even beyond the external parts, accurately determine the nature of its connexion, and easily reach the site of operation. But, when inversion has been thus produced, it is important that the operator should, without delay, attempt the replacement of the womb; and he may do this, as in the present case, with the greatest hope of success, as the mouth of the womb, from long distension, is not disposed at the moment to contract with great force.

On the 15th of June 1853, I visited, with Mr. Haymes, of Thirsk, Mrs. H—, of that town, æt. 56. She was extremely fat and anæmic; had borne several children, the last nine years ago; and has since been subject to profuse hæmorrhages from the womb. I found her greatly exhausted by loss of blood. The pelvis was filled with a smooth, rounded, elastic tumour, which descended as low as the perinæum, resting upon this part, but not distending it. No trace of the os uteri could be felt; nor could I reach with the fingers beyond the chief convexity of the tumour, so as to determine whether it was pedunculated or was closely attached to the substance of the womb.

On the 19th of June, I again visited Mrs. H—, having, in the meantime, considered what means should be tried for the removal of the tumour.

The first step in the operation was to grasp the tumour by a pair of fenestrated forceps, as used in midwifery. By firm traction of the mass downwards, and movements of it from side to side, a great portion of it was gradually brought outside of the vulva; but, as soon as the forceps were removed, it receded within the pelvis. This was repeated two or three times, until at length I brought it so low down that Mr. Haymes could retain it by the grasp of both his hands, until I had applied around its upper part a strong whip-cord, by the aid of Gooch's double canula. By this ligature, which was applied for the purpose of retention, and not for strangulation, the tumour was held downwards, and prevented from receding, and I was thus able to

determine, without difficulty, the relations of the upper part of the tumour to the body of the womb. It was then found that the tumour was not pedunculated, but was imbedded at its upper part by a broad base, in the substance of the posterior wall of the womb, which was now partially inverted by the traction which had been employed. By means of long curved probe-pointed scissors, I made a transverse incision through the investing membrane of the tumour, a little above the ligature that had been applied, large enough to admit the tips of three fingers, by which I was enabled, slowly and cautiously, to enucleate the imbedded portion of the tumour from the uterine wall; so that it only remained attached by the undivided portion of the investing membrane, which was now divided by the scissors, and the entire mass removed. The process of enucleation resembled much the turning out of a fatty tumour from its cellular bed. I now examined the vagina, and found it occupied by an elongated mass, as thick as the wrist, which was immediately recognised as the inverted womb. By compressing this mass with the fingers, and pushing it steadily upwards, the womb slowly receded, and at length suddenly resumed its natural position; after which the parts presented the ordinary characters which are observed in persons recently delivered of a child; but the womb felt of rather smaller size. The operation was completed at eight p.m. In two hours afterwards, the patient was perfectly easy, free from hæmorrhage, and her pulse 80.

On the following morning, she felt quite comfortable, having slept well, and her pulse was 80. So slight was the loss of blood, that during the night she had only soiled moderately one napkin.

The tumour weighed a pound and a half. Its length was seven inches; circumference at the broadest part, eleven inches; and at the line of incision ten and a quarter inches.

For the microscopical examination of its structures I am indebted to Mr. Scattergood, who states, that it consists of fibres identical with white fibrous tissue, having globules of fat interspersed; that the application of acetic acid did not exhibit any nuclei in its fibres; and that there was not any appearance of unstriped muscular tissue.

July 22d.—She had proceeded very favorably, having only a slight puriform discharge.

July 3d.—She sits up an hour or two. The discharge has nearly ceased.

27th.—Mr. Haymes reports, that since the operation she has not had one unfavorable symptom. She is now quite well, and has resumed her usual domestic avocations."

Art. 162.—*Pelvic Abscess.* By Tyler Smith, m.d.

(*Assoc. Med. Journal*, June 10, 1853.)

Four cases of pelvic abscess had come under Dr. Tyler Smith's care in St. Mary's Hospital, within the period of six months.

Case 1.—S. B. æt 35, the mother of ten children, was admitted on February 25, 1852. All her labours had been natural except the ninth. She was last confined on January 20. Four days after delivery, the lochia suddenly ceased; and pain soon appeared in the lower part of the abdomen. A month after delivery, she had irritative fever, with suppuration. On the left side, in the iliac region, and extending into the pelvis, there was a large firm tumour. Under treatment, she recovered somewhat, and was discharged by her own request on March 21.

On April 25, she was again admitted. In two or three days after her

discharge, she had had severe pains, obliging her to keep her bed; and in about a fortnight there was a discharge of pus *per vaginam*. No opening, however, could be detected on examination. Soon after re-admission, she complained of pain in the groin; and an abscess burst there, discharging a quantity of dirty pus. During her absence from hospital, her diet had been good. When admitted, she was suckling her infant; but was directed to wean it. She had pain over the left anterior superior spine of the ilium, and a hard mass extended towards the pelvis. When the last was made, the pelvic tumour was much diminished in size, and could not be felt *per vaginam*.

Case 2.—C. B., æt. 25, was admitted March 18, 1853. Her second labour occurred four months previously. Three days after delivery, the lochia became suppressed; and five days afterwards, she had pain in the abdomen, and a tumour was found in the right iliac region. It was supposed by her medical attendant to be ovarian or fibrous; and leeches and blisters were applied. She had several attacks of inflammation, with discharge from the vagina.

On admission, she was greatly reduced; her pulse was above 100; she had profuse night-sweats. A large swelling was felt above the pubis, extending obliquely upwards, and to the right side, *per vaginam* it could be felt to the right of the uterus. There was some irritability of the bladder. She was discharged, without much change, on April 12. Dr. Smith had heard that she had since been admitted into University College Hospital, and that suppuration had taken place externally.

Case 3.—E. R., æt. 26, had been confined three weeks before admission. Ten days after confinement, severe pain appeared in the right iliac region. The lochia continued to flow up to the day of admission; the milk had disappeared three days previously.

When admitted, she was much debilitated and exhausted: her tongue was clean and red; her countenance pale and anxious. There was tenderness in the right iliac region, but no tumour could be felt there. On examination *per vaginam*, the os uteri felt small and contracted, and there was apparently a solid mass between it and the side of the pelvis. She was subsequently attacked with rigors, and had a copious purulent discharge from the vagina, with clots of blood. No opening in the vagina could be detected with the speculum. She improved under treatment.

This woman had contracted secondary syphilis from her husband. The child showed symptoms of the disease a fortnight after birth, and died when six weeks old.

Case 4.—J. A., the mother of four children, appeared to have suffered in a previous pregnancy from pelvic abscess, which was evacuated through the rectum. In her last pregnancy, she had had several abscesses in the back.

She was admitted on October 4, 1852, being four months advanced in pregnancy. She had been attacked on 24th September with pain in the iliac and hypogastric regions, which had increased up to the time of admission. The pain extended down the right thigh. Two days before admission, she had severe rigors: but no fluctuation could be detected on examination. Early on the morning of October 6, she had a sudden abortion; she lost very little blood. Vomiting and diarrhœa set in, and continued some time. On October 21, there appeared to be indications of pus in the right iliac region. A small puncture was made, and about two pints of offensive pus were discharged. She soon rallied from her depressed condition: the pus continued to be discharged for some days; and the external iliac artery could be observed pulsating at the bottom of the abscess. On November 2, perforation of the bowel occurred, but was not attended with any unfavorable symptom.

On November 5, the vomiting and diarrhœa returned; and on the 10th she seemed moribund. After this, however, she rallied, and continued to progress favorably until Dec. 16, on which day she was suddenly informed of the illness of her husband, and of other domestic misfortunes. After this she got worse, and died on December 27.

Post-mortem Examination.—There was very little inflammatory deposit on the peritoneum. At the head of the cæcum, there were firm adhesions, and an opening into the cavity of the abscess. There was extensive burrowing of pus beneath both the ascending and the descending colon.

Dr. Smith believed that the disease which he had described was allied to puerperal fever and phlegmasia dolens; and that, in all probability, the earlier changes are identical in all these. The parts involved in the disease are the cellular tissue of the pelvis, the lymphatic glands, and the ovaries. He had seen a case connected with procidentia uteri; and also one which was evidently connected with the ovary, as shown by the mobility of the tumour.

The treatment should consist in moderating local inflammation, and keeping up the strength by good food, quinine, &c. He hinted at the possibility of making an opening *per vaginam*, for the evacuation of the matter.

Art. 163.—*Cases of Ovariotomy.* By (1) Professor Gross; (2) Mr. Lyon; (3) Dr. Howard; (4) Dr. Tanner.

(1) *Western Journal of Med. and Surgery*, Jan. 1853; (2) *Glasgow Journal of Medicine*, July, 1853; (3) *New York Journal of Medicine*, July, 1853; (4) *Medical Times and Gazette*, April 16, 1853.

These cases are five in number, and four of them are unsuccessful. They all speak for themselves, and require no comment. There is, however, one peculiarity in Dr. Howard's cases, and that is his plan of incising the peritoneum, so as not to include it in the ligature. The effect of this practice, in his opinion, is to lessen the risks of peritoneal inflammation.

1. Professor Gross's Case.—*Death in a Month after the Operation.*—The patient was a young lady, æt. 22. The uterine functions and the general health were little affected, but her body was greatly distended with a dropsical enlargement of the right ovarium. The growth of the tumour had been very rapid, there having been no traces of it a twelvemonth previous. She was tapped on the 5th of June, 1849, and ovariotomy was performed a fortnight later.

The operation was performed on the 19th of June. The bladder and bowels having been previously emptied, the patient was placed upon a table, and put fully under the influence of chloroform. The incision was made along the linea alba, and extended from near the pubes to three inches above the umbilicus, being at least one foot in length. The tumour, being thus completely exposed, was found to be very red and vascular upon its surface, and to adhere all around, inferiorly, by bands of false membrane, which, however, were easily detached by the hand. The pedicle was quite narrow, and, after being surrounded by a stout ligature, it was divided and the morbid growth lifted from its bed. Although the ligature had been tied with great firmness, it immediately slipped off after the part was cut, thus rendering it necessary to apply another. Previously, however, to doing this, a large artery included in the pedicle, and bleeding freely, was secured separately, lest the large ligature might come off again, and thus lead to serious, if not

fatal hæmorrhage. A fasciculus of false membrane, on the left side, appearing to bleed, was treated in a similar manner. The blood being now carefully removed from the peritoneal cavity, the ligatures were brought out at the inferior angle of the wound, the edges of which were next approximated by nine twisted sutures, the needles being carried through the muscular fibres, about an inch and a quarter from each other. Strips of isinglass plaster were now placed in the intervals between the needles, and a narrow and rather thick compress was stretched along each side of the wound; the whole being supported by a broad bandage, passed round the abdomen and upper part of the thighs. The patient, pale, considerably exhausted, and in great pain, was put to bed, and took immediately one grain of morphia, followed by half a grain more in two hours.

The operation was performed at eleven o'clock in the morning, and at four o'clock in the afternoon she was quite comfortable. She had slept a little, and was nearly free from pain; the skin was moist, the extremities warm, and the pulse soft and 120 in the minute. She had vomited once soon after the operation, probably in consequence of having drunk too much water.

On the morning of the 20th, Dr. Gross learned that the patient had slept well nearly all night; she had urinated without difficulty; the abdomen was free from pain and distension; she could lie equally well on her back and sides. In the evening, the abdomen was slightly tumid and somewhat tender on pressure, the countenance was a little flushed, and the pulse was about 120. Half a grain of morphia was ordered to be taken at bedtime.

On the 21st, there was some tympanitis, but in other respects the patient was doing well. She had again passed a good night, had considerable appetite, and was free from abdominal tenderness.

On the 22d, an enema of half an ounce of castor-oil and a pint of flax-seed tea was ordered, and this was succeeded during the day by a slight fæcal discharge, accompanied by a considerable quantity of flatus.

From this time on everything progressed favorably. On the 26th, she took a mild vegetable pill, which was followed by two alvine evacuations; on the 27th, eight days after the operation, Dr. Gross removed the four upper needles, the rest being allowed to remain until the next morning. The wound, which was now supported merely by broad adhesive strips, had united entirely by the first intention, except at the sutures, where slight ulceration had commenced; the bowels moved spontaneously; and everything promised a happy issue.

On the 2d of July, menstruation set in, and continued until the 4th, when it ceased. The patient at this time looked pale and feeble; she was accordingly directed to take quinine and brandy in moderate quantities. Under this treatment, together with the aid of a light but nutritious diet, and good nursing, she went on well until about the 8th of July, when in consequence, apparently, of exposure to damp and heavy draughts of air, occasioned by a change in the weather, she was seized with a severe chill, followed by excessive prostration. Means were immediately resorted to for producing reaction, but several hours elapsed before she completely rallied, and she was never well afterwards. It was but too evident that peritonitis was going on, and that, notwithstanding the use of blisters and appropriate internal remedies, the case must terminate fatally. Miss D. lingered until the 17th of July, at four o'clock, when she expired.

The dissection, made twelve hours after death, was conducted by my friend, Dr. T. G Richardson, who has kindly furnished me the following account of it. There was no external sign of putrefaction; the body was greatly emaciated; the abdomen was tense and tympanitic, with a sense of

obscure fluctuation, and upon puncturing it, a considerable amount of gas issued from it. The walls of the abdomen were so closely adherent to the viscera as to be dissected off with difficulty; and the parietal portion of the peritoneum, greatly thickened throughout its whole extent, was firmly attached to the omentum, liver, spleen, and intestines, which were so completely buried in lymph as to be hardly distinguishable from each other. Owing to the peculiar manner in which the viscera were united to each other, the peritoneal cavity was divided into three distinct compartments, namely, two lateral and abdominal, and one pelvic, the former containing each about half a gallon of turbid serum, mixed with shreds and cakes of lymph, and the latter about a pint of sero-purulent matter.

The internal extremity of the ligature which had been cast round the pedicle of the tumour lay loose in the pelvic cavity, but so completely were the organs concealed by the inflammatory deposits, that it was impossible to discover the point where it had been attached. The outer extremity was hanging out at the inferior angle of the wound, where it had effectually resisted the various attempts that had been made to separate it. The left ovary, with difficulty found, was somewhat softened, but in other respects perfectly natural. The uterus, with the exception of a little congestion of its lining membrane, was also unchanged.

The internal surface of the stomach and bowels, and the substance of the liver and spleen, presented nothing of a pathological character. The bladder also was sound.

The tumour, after its removal, was found to be of an ovoidal shape, being larger above than below, soft and fluctuating, and of a uniform outline, except at three points, where it was rendered slightly protuberant by the presence of small cysts. It was from ten to twelve inches in length, about eight in breadth, and nearly the same in the antero-posterior diameter. Its weight was about nine pounds. Laid open, it was found to consist of a single sac, filled with reddish serum and grumous blood, adhering to its surface. Its walls were fully an inch in thickness, and bore a very close resemblance to those of the gravid uterus. The adventitious or accessory cysts, previously mentioned, were attached to the main sac, but did not communicate with it. The largest, situated at the base of the tumour, was of the size of a hen's egg, and was occupied by a substance similar to that of the main bag; while the two smaller were filled with sero-albuminous fluid.

2. Mr. Lyon's Case.—*Death within thirty hours after the operation.*—The patient in this case was an unmarried female, æt. 31. She had extensive dropsical enlargement of the right ovary, which had been progressively increasing for upwards of two years, and for which she had been tapped thrice. The operation was performed on April 5th, 1850. Having been put under the influence of chloroform, an incision three inches in length was made in the *linea alba* from the umbilicus downwards. When the tumour was exposed, several small cysts were punctured, and their contents allowed to escape. It was then found to be adherent, to a slight extent, above and around the umbilicus. The largest cyst, which filled and distended the abdominal cavity, was now punctured, and a great quantity of sero-purulent matter was discharged. In consequence of the evacuation of the contents of the cyst, and the external opening having been somewhat enlarged, the adhesions to the peritoneum lining the anterior wall of the abdomen were reached with the finger, and separated, though with some difficulty. The whole of the sac was then easily drawn out of the abdomen; two short ligatures were tied firmly around the pedicle, which was about an inch in breadth and half an inch in thickness; it was then cut a little above the ligatures and

the sac removed. A sponge was used gently for the purpose of removing a small quantity of the contents of the large cyst which had escaped into the abdominal cavity. The wound was closed by three or four stitches, and by straps of adhesive plaster, after which a light compress was applied over it, and a broad bandage put round the abdomen. *To have immediately a small starch enema, with two drachms of laudanum.* At 11 p.m. it is reported that patient has been asleep since the operation, and she now expresses herself to be quite comfortable and free from pain. Pulse 98, fair strength. *The anoydne enema to be repeated.*

April 6th, 6 a.m.—Has passed on the whole a good night, though occasionally disturbed by cough. Pulse 114, soft, and of good strength; tongue moist; respiration normal. Is still quite free from pain.

11 a.m.—Is somewhat drowsy. Complains only of weakness. Pulse 120, soft. *To have two teaspoonfuls of wine every half-hour.*

2 p.m.—Much the same as at last report. Pulse rather weaker. Pupils slightly contracted. *To have half an ounce of whisky every half-hour.*

4 p.m.—Patient is now evidently sinking; respiration laborious; extremities cold; pulse almost imperceptible. Death at 7 p.m.

Inspection of the body 30 *hours after death.*—The edges of the incision in the abdominal parictes were slightly adherent in consequence of the effusion of a small portion of lymph. About six ounces of sero-sanguinolent fluid, mixed with a little pus, were found in the abdominal cavity. The small intestines were slightly glued together by recent effusion of lymph, and presented on their peritoneal surface numerous congested patches. The omentum was likewise adherent to the intestines, and to the peritoneum lining the anterior wall of the abdomen. All around the umbilicus, the peritoneum had a congested and ecchymosed appearance, and in some situations slight laceration of the peritoneum and effusion of blood were observed. The uterus and left ovary were quite healthy. Other organs not examined.

The tumour at first sight seemed to furnish examples both of the multilocular and unilocular varieties of ovarian dropsy, but, on more minute inspection, it was scen to consist of a large unilocular cyst, with a cluster of smaller cysts springing from its interior, a little beyond its origin from the pedicle, and covered by its lining membrane. This aggregation of cysts formed a globular mass of considerable size, and was evidently that which had been felt during life in right iliac fossa, both before and after patient had been tapped. The unilocular cyst was so large, that when filled with fluid, it would cause very considerable distension of the abdomen. Its lining membrane was highly vascular in some situations, but was, for the most part, coated with recent lymph. It contained, as has been already mentioned, a large quantity of sero-purulent matter, the greater part of which had to be evacuated before the she could be drawn out of the abdomen. The thick pedicle of the tumour had its origin in the broad ligament of the right side.

3. Dr. Howard's cases.—Case 1. *Recovery.*—The patient in this case was a young lady, æt. 17. The disease was in the right ovary. It had only been in existence six months, but it had extended so rapidly as to distend the whole abdomen, and to cause great distress. The uterus and its functions were healthy. After being tapped twice in the course of a month, the operation was performed on the 14th of October, 1852. Dr. Howard proceeds: The proper arrangements being made, and the patient placed upon a table, and fully under the influence of chloroform, I made an incision from three inches above the umbilicus on the linea alba to the pubis, dividing the integument, fascia, tendon, and peritoneum. The ovarian tumour was fortunately found free from adhesions, but its attachments to the uterus, &c., were rather exten-

sive. I now adopted an expedient to which is due, *mainly*, the success of the operation. Fearing the effect of the ligature upon the delicate peritoneum, I divided it completely around the neck of the tumour upon a grooved director. In the groove or channel made by this dissection, I applied the ligature, which sunk deeply and readily into the loose cellular structures as I tightened the knot, without impinging in the slightest degree upon the contiguous peritoneum. The neck of the tumour was divided about one inch from the ligature, and the wound dressed in the ordinary manner. The whole operation was performed and the patient placed in bed without the least consciousness of pain on her part.

Since the operation not an unfavorable symptom has occurred. The ligature came away and the parts healed kindly; and now, December 9th, we believe she is perfectly well. I had omitted to mention that the patient had several attacks of intermittent fever in August and September, and that she had not menstruated for near three months before the tumour was removed. I have not learned whether her menses have returned since.

Case 2. *Death in seventeen days after the operation.*—The patient in this case was married, 28 years of age, and the mother of four children. The ovarian disease, which was in the left side, had been progressing for five years, until it occupied the whole abdomen, and caused much distress by its bulk. The uterus was not implicated. After being twice tapped, the operation of ovariotomy was performed on the 26th October, 1852. Dr. Howard writes: On reaching the tumour, its surface was found firmly adherent to the abdominal peritoneum. The adhesions were broken up from four to six inches beyond the boundaries of the incision. Being now persuaded that adhesions were general, and perhaps universal, over the entire surface of the tumour, I abandoned my efforts at separation—removed by excision a portion of the ovarian cyst, introduced a tent made of lint through the opening into its cavity, for the purpose of preventing closure, dressed the wound by sutures and adhesive strips, and placed the patient in bed.

The shock of the operation was but slight, and she soon became comfortable. For several days she suffered but little, but a low form of inflammatory action attacked the tumour and peritoneum. The discharge became intolerably offensive, and under its influence she gradually sunk, until, the 17th day after the operation, she died, apparently from exhaustion.

4. Dr. Tanner's Case.—*Death in five days.* Mary S—, æt. 46, married 24 years, but never pregnant. Her previous health had been pretty good, and her present state was satisfactory, notwithstanding some considerable pain and dyspnœa, from the distension of the tumours. Six months previously she had been tapped; but the symptoms having returned in all their force, she was urgent to have the more serious operation performed. This was done on the 15th March, 1853. Dr. Tanner proceeds:

Assisted by my colleagues, Dr. Protheroe Smith, Mr. Scott, Mr. Sanderson, as well as by Dr. Gundry, of Rochester, United States, I proceeded to remove the tumour, the patient being seated at the side of the bed, propped up by pillows, and narcotised by the inhalation of chloroform: the temperature of the room was raised to 75° Fahr. I commenced by making a small incision about three inches long, midway between the umbilicus and pubes, and, opening the peritoneum, exposed the tumour. Passing in my finger, it was found that there was some slight adhesions, but as these were readily broken down —being evidently of recent formation, I continued the operation. Unfortunately, there were some bands of lymph of a firmer kind existing between the upper part of the tumour and the peritoneum, but these were overcome by the finger without trouble or much force. A trocar was then plunged

into the cyst, but as only a small quantity of very thick gelatinous matter issued through the canula, another instrument was pushed into the tumour higher up, and evidently into a separate cyst: about two pints of a dark coloured fluid were withdrawn. Finding, then, that the lower part of the tumour was composed of solid matter, and that the opening already made was not sufficiently large to allow of the exit of the mass, the incision was increased in length, and the cyst and solid matter slowly drawn out. It was then seen that the pedicle was very thick, and after some little difficulty it was found to have formed adhesions with the intestinal canal. A ligature was, however, tightly placed round the pedicle, just above its union with the intestine, and the mass was then removed. This proceeding was followed by hæmorrhage, which, though not very abundant, yet, combined with the operation, was quite sufficient to reduce our patient to a rather alarming state of exhaustion. Brandy was given, and two or three bleeding vessels having been ligatured, the edges of the wound were brought together by numerous interrupted sutures, and the patient drawn up into bed. To guard against the risk of internal hæmorrhage, a piece of ice was applied to the abdominal wall, and she was given two grains of solid opium in a pill. For the few hours succeeding the operation, I remained with my patient, giving at intervals a small quantity of brandy and water, and occasionally small pieces of Wenham Lake ice, for which she was very grateful, As there was no appearance of any hæmorrhage, the application of the ice was discontinued, and water-dressing applied to the wound. At half-past seven o'clock she was free from pain, but felt low. Pulse 100, feeble. Another pill was given, containing one grain of opium. At ten o'clock she expressed herself as feeling comfortable, having dozed for more than an hour. At one o'clock, a.m., on Wednesday, March 16th, I drew off half a pint of urine with the catheter. Pulse 90; skin cool and comfortable. Has had some sleep. She was then doing so well that I left her, ordering her one grain of opium immediately, and to be repeated every four hours. Ten o'clock, a.m.—I found her doing very well. She had had some refreshing sleep, was free from pain, and was in good spirits. Pulse 96. Wound looking healthy. Urine withdrawn. Takes a little tea, weak brandy-and-water, ice, and the opium every four hours.

On the following day, Thursday, March 17th, she was not quite so well, as, unfortunately, the catamenia had come on, although not due for about ten days. In her weak state this had tended to depress her. During the day her pulse rose to 120; tongue was clean; no tenderness of abdomen. In addition to a continuation of the treatment, she was allowed a little good beef-tea, and the yelk of an egg beaten up in sherry. When visited the last thing at night she was better, and fancied she should have a good night's rest. Up to this time she had taken nineteen grains of opium.

Friday, March 18th.—Much better this morning. Has passed urine voluntarily and without pain. Pulse moderately strong, easily compressible, 110. Wound looking very healthy. Catamenia continue. She takes the opium every four hours now. Continues the same with her nourishment.

Saturday, March 19th.—Remains much the same; complains of feeling a little inclined to vomit. Pulse 100. Wound looks healthy, and appears healed, except at the lower part, where the ligatures hang out. Removed all the sutures, and applied strapping. There is no tenderness at any part. She was ordered a few drops of the dilute hydrocyanic acid in almond mixture, and to take the opium less frequently. Bowels have not been opened since the operation, but I do not think it advisable to be in any hurry as to their acting. Catamenia have ceased. Repeat the opium every seven hours.

Sunday, March 20th.—Is better this morning, having passed a good night. Pulse 96, soft, but strong. Wound looking well. At five o'clock, p.m. she complained of feeling a little sick, but thought it would go off. She continues her brandy-and-water, the ice, the egg, and sherry, and has had some good mutton-broth for her dinner. At ten o'clock, p.m., I was sent for in great haste, as she had suddenly become much worse, having had a severe attack of vomiting. On arriving at her house, I found that she was rapidly sinking, her pulse being almost imperceptible, and her skin cold, and covered with a clammy perspiration. She was sensible, and complained of feeling very exhausted. Brandy was given in large doses frequently; warmth applied to the body and extremities; but the treatment was of no avail, and she died in rather less than five hours.

In deference to the strong wishes of the friends, no *post-mortem* examination of the body was made. It only remains, therefore, for me to describe the nature of the tumour removed. This consisted of one large cyst, containing at its lower part several secondary cysts, and some solid matter, about the size of the fœtal head. There was nothing peculiar about the cysts, which appeared to have been formed in the left broad ligament of the uterus. On the external surface of the parent cyst, so to call it, was found the left ovary, which, on being dissected off and examined, was found to be healthy. The smaller cysts were filled with a thick, gelatinous matter, somewhat resembling honey in appearance: it must have been one of these sacs that I tapped at the commencement of the operation. The remaining solid matter had, to the naked eye, a most suspicious appearance, resembling soft medullary or brain-like cancer. On examination by the microscope, numerous cells, which I regarded as cancer cells, were discovered.

(c) CONCERNING THE DISEASES OF CHILDREN.

ART. 164.—*Case of Variola in the Fœtus.* By W. T. TAYLOR.

(*American Quarterly Journal of Medical Sciences*, July, 1853.)

Cases of this kind are of great rarity, but a few are on record. In some of these, as in the present, the disease has infected the child and passed by the mother, or but slightly affected her. In others, the mother has had smallpox, and though no marks have appeared on the child, it is presumed to have had the disease, in consequence of its insensibility to inoculation or vaccination. Some of these cases are mentioned in Dr. Watson's 'Practice of Medicine.' Dr. Taylor writes as follows:

On the 8th of October, 1852, I was requested to visit Mrs. A. H—, twenty-six years of age, and the mother of one child, then about three years old.

On reaching the house I found she had miscarried, being in the fifth month of pregnancy. The pains having entirely ceased, I gave half an ounce of the wine of ergot, which soon caused the placenta to be expelled.

Upon examining the fœtus, I was greatly astonished to find it completely covered with discrete variola, in the pustular stage, apparently about the eighth day of the disease. Some of the pocks were well filled and rounded at the top, whilst others were depressed in the centre. The mother had been vaccinated when a child; she never

had had smallpox, nor even seen a case of the disease; but was always fearful of taking the contagion. Referring to a case of confluent variola, which I had attended, a few doors from her residence, during the early part of September, she remarked, "I would never pass the house, but always crossed to the other side of the street."

A few weeks previous to her miscarriage, having been seized with a chill, which was followed by headache, sickness of stomach, and a severe pain in the small of the back, she was impressed with the idea that it was smallpox. This occurred on Friday, the 24th of September. Two days after, an eruption resembling prickly heat, appeared on her face and arms. She drank a tea made of ginger and sweet marjoram, "to drive out the disease," and feeling somewhat better, did not seek medical advice. On Monday, September 27th, the eruption began to disappear, and on the following day it was entirely gone; but she did not feel perfectly well, for there were occasionally symptoms, which she described as flashes of heat, and cold chills, running all over her, with a dull, aching pain through the stomach, and loss of appetite. These symptoms continued until two days before her abortion, when she felt a weight in the pelvis, attended with "bearing-down pains," which continued until she parted with the fœtus.

ART. 165.—*Memoranda relative to some Cerebral Affections of Children.* By W. HUGHES WILLSHIRE, M.D., Physician to the Royal Infirmary for Children, &c.

(*Lancet*, Oct. 5, 1853.)

1. *Simple Ventricular Meningitis.*—Simple acute meningitis, is, under any of its forms, an unfrequent disease in childhood. At this period, the meningeal inflammation is usually of the granular or tuberculous character, or, at any rate, is subservient to the sway of the important diathetic disorder, scrofula. But if simple acute meningitis of the periphery alone, or combined with that of the base or of the ventricles is uncommon, that limited to the lining membrane of the latter is excessively rare. So rare indeed is it, that MM. Rilliet and Barthez, have been unable to meet with a single case on record. The former, however, has been witness to one, terminating in ventricular effusion, loss of intelligence, idiotcy, and death. The fatal event did not occur till the end of the fourth month, the disease assuming somewhat of a chronic character. The case seems more particularly interesting, as tending to support the views of those who believe chronic internal hydrocephalus to be due to inflammation of the ventricular lining membrane. The following instance differs in some important points from M. Rilliet's, and appears more fully to demand the qualification of *acute* to the terms ventricular meningitis.

C. W—, a boy æt. 5 years, was brought to the Infirmary in the month of January. His parents live near the Institution. The child was said to have been ill for more than a week, and to have been an out-patient at the Charing-Cross Hospital. The prescription-paper of the latter showed that antimonials and salines had been given. The patient was very thin, pale, and

weak, lying in his mother's lap, scarcely able to speak, though complaining somewhat of his head. There was thirst, loss of appetite, coated and rather dry tongue, but no costiveness. On a review of the whole symptoms, and being impressed by the recollection of an epidemic then prevalent in the locality, I came to the conclusion that the child was suffering from chronic remittent fever of a low type. Still, I was not quite satisfied with the diagnosis, as there appeared something not easily to be described in the case, different to the patients I was then attending. The epidemic then prevalent absolutely demanded bark and ammonia for its satisfactory treatment, and these agents were here given. Under their employment a great change for the better appeared to ensue, and progressed for an entire week. I watched the case with much interest, being suspicious about my diagnosis, but at the end of the week I entered in my note-book, that I thought my patient would do well, and that "my diagnosis is right." The next day a change appeared. The patient became worse, and complained bitterly of his head. There was no costiveness, rather the reverse, but there was some vomiting. The ammonia and bark were stopped, leeches applied to the temples, and blisters behind the ears, antimonials, salines, &c., given. No relief from any treatment was obtained, the child became still worse, semi-conscious, the pupils were dilated, the head thrown back, and the limbs became slightly stiffened. With slight alternations, these symptoms continued for four days, when the limbs became more relaxed, and every now and then affected with a sort of slow shaking, or trembling movement. The remission called the "lightning before death," appeared, then, as was expected, the symptoms became worse, the limb stiffer, the head thrown back, the hands clenched, and the patient died at the end of the second week after his first visit to the Infirmary.

The case had been very obscure; there had been no definite convulsions, no screaming, no "cerebral respiration," though the latter was frequent, no constipation, and but little vomiting. The constant dorsal decubitus, the peculiar opisthotonic symptoms, and the pyrexial prodromi were the more marked positive phenomena—of course the lesion was cerebral, but that was saying little; there was probably effusion, that was not saying much more. It might be the base, or the hemispheres, or the ventricles, which were more particularly involved, or it might be the meninges alone which were affected, or they might be intact, and true tubercle exist of the cerebellum medulla, or brain proper. Further, the inflammatory element, if present, might be either of the simple or granular character, the fever might be symptomatic of the cerebral mischief, or reactional, or be the primary disorder, and the affection of the nervous centre be secondary to it.

P.M.—Skull well ossified, convolutions of brain close-pressed, the membranes intensely congested. No milky effusion along the course of the vessels, no exudation of any kind beneath the arachnoid or upon the hemispheres. No granules along the edges of the latter. Cerebral matter showing numerous red points and striæ on section, but no continuous blush. Ventricles greatly dilated, extending the whole length of the hemispheres, and full of serum. In each posterior cornu floated a thick continuous flock or flake of green-coloured purulent matter. The ventricular lining membrane was thickened and vascular in parts, and rough and broken down elsewhere. No central softening existed. A small quantity of green purulent matter was found at the base. The cerebellum was rather softer than natural. No tubercular deposit existed within the cranium, nor within the throat.

The absence of the ordinary characters of simple hemispheric acute meningitis, of those of the tuberculous meningeal affection, the slight evidence, comparatively, of lesion at the base, and the very positive signs of the

ventricular changes, together with the peculiar symptoms, authorise me, I believe, in considering the above case as one of simple acute ventricular meningitis.

2. *Water-Stroke.* (?)—*Essential Acute Hydrocephalus.* (?)—*Acute Simple Meningitis of the Ventricles and Base.*—In certain cases of very rapid death after the appearance of cerebral symptoms, and in which, on necroscopic inspection, the ventricles contain an abnormal amount of fluid, the term *Wasser-Schlag*, or water-stroke, has been employed to designate the affection. That so rapid a sequence of events does occur as to merit the appellation, we can testify to; and the case upon which the evidence is founded half inclines us also to the belief that there really is such an affection as essential acute hydrocephalus. That Gölis and others have applied the term "water-stroke" to sudden effusion (and rapid death), due to several pathologic conditions, appears to be the case. Sometimes the ventricular dropsy has been connected with meningitis of the periphery or of the base and ventricles; at others it has occurred secondarily in the course of scarlatina and albuminaria, &c.; whilst, in a few instances, it has been regarded even by careful observers as of primitive idiopathic character, and as really meriting the term of acute hydrocephalus. The whole of this question is one of much interest, and full investigation of it will be found in the French works on pædiatrics.

M. E—, a girl eleven months old, was brought to the Infirmary one morning in the month of March. She was in a state of convulsions. The latter were severe, though of the slow and prolonged kind. The face was greatly congested, the gums rather swollen, and the bowels costive. Constipation and slight vomiting had been present for a day or two, but no symptom had occurred by which special attention was attracted to the child's health, much less in particular to the head. According to the mother's view the child had dropped at once into disorder by the convulsions which had just occurred, and to which we were then witness. It seemed probable from her account, however, that a syphilitic eruption had formerly existed. The gums were lanced, leeches applied to the temples, and blisters over the mastoid processes. Cold lotions were ordered to the brow, and the bowels directed to be moved freely by compound aloetic powder. The convulsions continued, stupor came on, and death ensued the same evoning. On *post-mortem* inquiry the meninges were found pale and uncongested, the cerebral matter also pale and soft. At one limited point of the edge of the anterior part of one of the hemispheres there was a slight thickening, and a yellowish white colour of the membranes. The ventricles were much elongated, and contained from five to six ounces of colourless serosity. At the base was some whitish semi-concrete exudation, but nowhere any evidence of granular deposit. It cannot be denied that in this case we do not find the lesions either of ordinary simple or of granular meningitis. We do not find the usual symptoms of them also. It may be asked what evidence is there at all to show that the inflammatory element played any part in the business. The membranes and brain were pale, and not extravascular. The only evidence is the slight semi-concrete effusion at the base, and the change of the membranes at the one point alluded to. The latter, however, did not strike us as being recent, whilst the former was so inconsiderable that except in so negative a case as the present it would have been of comparatively little importance. In this case, then, a healthy-looking child is regarded as having nothing particular the matter with

it. At nine a.m., it is suddenly attacked by convulsions, which continue, then coma supervenes, and before nine, p.m., the same day, death results. On examination afterward, the pallor of the membranes and brain, the slight softening of the latter, and ventricular enlargement and effusion, are the positive and prominent lesions. Now, had there been evident previous *malaise*, or exhaustion from diarrhœa, or from depletion in pneumonia, &c., the pathology would have been somewhat more evident, as it is, notwithstanding the slight effusion at the base, and the softness of the central portion, a point upon which stress has been laid by MM. Guersant and Blache, we are led not to be too positive in denying the existence of essential acute hydrocephalus.

Art. 166.—*Croup and Tracheotomy.* By Dr. Karl Weber.

(*Henle's Zeitschrift*, Bd. iii, Ht. 2, 1853.)

The ordinary mortality of croup is somewhat doubtful. On the authority of Jurine, 25 recovered out of 28; of Boudet (who obtained his particulars from the records of the "Hôpital des Enfans Malades") only 6 out of 63; of Guersant, 20 out of 100. Dr. Weber believes these latter statistics to be the correct ones, and thinks the more favorable results to be owing to the exclusion of cases of spasmodic croup.

M. Weber is strongly in favour of tracheotomy, and he thinks that the results obtained by M. Trousseau are not at all overstated, which results are that 127 operations out of 222 were successful. It is to be remembered, however, that Trousseau operated without any delay, and that he applied a strong solution of nitrate of silver (10 grains to the ounce), to the interior of the trachea—an application the results of which may have had an important influence upon the success of the operation.

Art. 167.—*Successful Tracheotomy in a Case of Croup.* By W. Craig, Esq., of Ayr.

(*Medical Times and Gazette*, May 21, 1853.)

The case was one of ordinary croup in a boy of seven years of age Vigorous antiphlogistic measures had been employed before the operation. The rest is thus described:

The boy was seated on the knee of an assistant. A free incision of fully two inches in length was then made, without losing a drachm of blood; and every drop was removed before opening the trachea. It was opened to the extent of an inch fully, and the incision was at the same time carried through the false membrane. Immediately on the opening being made, the membrane was seen vibrating in the trachea, and a violent expiratory effort caused a large portion of it to be forced out; and the patient was immediately and completely relieved. The larger portion of the membrane thus ejected was about two inches in length, and, at its greatest breadth, was fully an inch and a quarter. There were two small fragments thrown out at the same time, which, when added to the largest piece, made it of a uniform length and width.

It was fully a line in thickness, and, in tenacity, it somewhat resembled that of an orange skin.

For a number of hours after the operation, there was little cough and no expectoration; but there was a considerable discharge for some time after this, without any bronchial or other pulmonary irritation which could be discovered to account for it. The discharge might, in my opinion, be supplied for the most part by the solution of that portion of the membrane which lined the trachea between the glottis and the opening. On the third day after the operation, the tube was found more than usually obstructed; and, on removing it, a portion of thin, membranous matter was flapping in the wound. Part of this was forced out by the expiratory efforts; and another portion adhered so firmly, that some force was necessary to separate it from the attachment it had with the inner surface of the trachea above the wound. This was evidently that portion of the false membrane which filled the trachea between the glottis and the upper part of the wound. A portion of it had a distinct tubular form; but it was remarkably attenuated, having rapidly dissolved after the opening through the trachea had been effected. In the course of eight days after the operation, the natural air passage had become so clear, that the tube was removed, and the respiration was established in its natural course. There was a partial return of the croupy cough on the 22d of April; but it became speedily better, and he has since continued to progress most satisfactorily; he is now nearly well, and the wound in the neck has cicatrised. There was some suspicion that this attack was connected with scarlatina, as a younger sister of our little patient died in the same house from a severe attack of fever, accompanied by a species of sore throat peculiar to this affection. What, in addition, gave countenance to this apprehension, was the desquamation, to some extent, of the cuticle, from the anterior part of the chest; but this might have depended exclusively on an erysipelatous condition of the skin around the incision, and extending down the anterior part of the chest a few days after the operation. The age of the patient, and the uncomplicated condition of the complaint—there was no pulmonary affection—were very encouraging circumstances in this case. Another circumstance which, in my opinion, promoted a favorable result, was the free opening in the trachea, as a strong expiratory current was permitted, which forced out the whole of the false membrane which was situated below the incision. The false membrane reached about an inch below the lowest point of the incision, very near the bronchial bifurcation. Some authors mention, that there is no prospect of success if the membrane extend below the point chosen for incision.

I do not consider that the question of tracheotomy should be delayed till the leaden hue of the countenance and the purpled colour of the lips evince to what extent the vitiation of the circulating fluid has advanced. The hopelessness of the case can be easily prognosed before the affection has advanced so far; and if an earlier period were generally chosen, there would, in all probability, be less chance of the extension of the false membrane into the bronchial tubes. It would have been hopeless to have expected the expulsion of the false membrane through the glottis, when, even in the attenuated condition in which the last portion came away, it required considerable traction with forceps to separate, or, rather, tear it from its adhesion to the inner surface of the trachea. Though the membrane had been loose in the trachea, such a mass coming up through the glottis with diminished expiratory efforts to force it through would inevitably have produced suffocation. Although the lower edge of the membrane was unattached to the walls of the trachea, it was firmly connected with the upper part, as was evinced by the strong adhesion of the attenuated portion that came last away.

Art. 168.—*On the Use of Choloroform in Hooping-cough.* By Fleetwood Churchill, M.D. M.R.I.A.

(*Edinburgh Monthly Journal*, Aug. 1853.)

The following remarks and cases are addressed to Professor Simpson in the form of a letter. Dr. Churchill writes—

You are aware that, in my work on Diseases of Children, published three years ago, I mentioned that I had tried the inhalation of sulphuric ether in hooping-cough with great benefit in about a dozen cases. After your application of chloroform for producing similar results, I tried it in hooping-cough with equal benefit in at least as many more cases. But I always found two obstacles to its full and fair administration to young children. In the first place, you cannot get them to give notice of the approach of a cough, so as to enable you to have the chloroform in readiness before the paroxysm commences, and when the paroxysm has commenced, as it consists of eight or ten expirations to one inspiration, the chloroform will have evaporated before it has been fairly inhaled. And secondly, young children have such a horror of anything near their mouths during the cough that they will resist your trying the chloroform as much as possible until they themselves have felt its power in relieving the cough. Owing to these two causes, and perhaps also to a want of clever management on the part of the mother, we shall find it fail altogether, occasionally, and in other cases only partially succeed; but when it is fairly tried, as I have already remarked, its use is most beneficial.

I have all along felt very anxious to try it in young persons of twelve or fourteen years old and upwards, because with them we can avoid the two difficulties I have mentioned; but it was not until this year that I had an opportunity. Four cases have come under my care, and the results are as follows:—

Case 1.—Miss D., æt. 16, had had hooping-cough a month, when I prescribed chloroform. There was no complication, but the whooping was frequent, especially during the night. She was directed to have the chloroform in readiness, and to use it with each paroxysm, and she assures me that in two days the whoop ceased. The cough lasted a few days longer, but it was slight and not in kinks.

Case 2.—Miss A., æt. 20, had been ill with hooping-cough for about three weeks, when I prescribed chloroform. The cough was not very frequent, and there was no complication. Two days sufficed with her also to relieve her of the whoop; and the slight cough which remained subsided after a week or ten days.

In these two cases the effect seemed quite magical: both had the disease well marked, and the families of both were prepared for a disease of two or three months' duration, as was the case with these other children.

Case 3.—Miss B., æt. 18, took the complaint from her brother whom I was attending, and I therefore had an opportunity of giving chloroform from the commencement. She did not whoop any time she coughed; but she was directed to use the chloroform whenever she felt the tickling in the larynx, without waiting for a cough. By doing so, she found that she could postpone the cough indefinitely, and if it came on suddenly, the use of the

chloroform instantly suspended it. About three weeks elapsed before the tendency to cough and the use of chloroform ceased; but during that time she lost neither appetite nor flesh. She slept well, was in good spirits, and able to follow her usual occupation. She went to the country quite well.

Case 4.—Master B., æt. 16, the brother of the last case, when I first saw him, had the disease most severely. The kinks were violent and prolonged, the efforts to inspire, and the whoop excessive; it really seemed as if he would be choked or that something would give way. He had lost appetite, sleep, and spirits, although the disease had not lasted three weeks when I saw him. I tried chloroform with him, and it at once reduced the number of paroxysms one half, but without mitigating them when they did occur. He took the chloroform very freely, and as he was not readily influenced by it, the quantity seemed to give him a headache, and he begged to be allowed to suspend its use. I the more willingly agreed to this, as he had a severe attack of diarrhœa. I therefore substituted two drops of prussic acid (Dub. Pharm.) with two or three of black drops three times a day. The improvement, begun under chloroform, continued under this treatment, and at the end of five weeks from the beginning of the disease the cough had ceased, and he had regained rest, spirits, and flesh.

Although this last case cannot be regarded as cured by chloroform, the paroxysms were first diminished by it, and, I have no doubt, that it contributed to the beneficial effect of the prussic acid. The three first cases, are, I think, very conclusive as to its value; and, if further experience confirms them, we shall possess a means of cutting short this disease in adults, who, when attacked, suffer so severely.

One word as to the mode of exhibition. In order to avoid the possibility of an overdose, I have never given the chloroform on a handkerchief or by means of an inhaler, but have directed the mother (in the case of young children) or the patient, to spill a little, say about thirty drops, in the palm of the hand, and hold this before the mouth and nose sufficiently near to inhale it fully, but not so close as to exclude a portion of atmospheric air. The best time to begin is just as the patient feels the irritation in the chest increasing to a cough, but if possible before the cough commences, and the inhalation should be repeated with each return of irritation, unless headache be produced.

REPORTS

ON THE

PROGRESS OF THE MEDICAL SCIENCES.

July—December, 1853.

The intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

I.

REPORT ON THE PROGRESS OF PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

1. *On Cholera.*—The reappearance of this formidable pest has revived many of the old fears respecting it, but these are not quite so well grounded as many alarmists would have them to be. All knowledge in the matter is not mere empiricism. There is indubitable evidence that cholera originates in the same hot-bed with typhus. There is much evidence that the two diseases are members of the same great class of fevers;—and Dr. Cormack only adds fresh proof to this conviction, by the view which he has recently advocated, that "cholera is a fever, intimately related to those fevers which depend on malaria."*

Not much new light has been shed upon the immediate cause of cholera. The only novel suggestion is that of Dr. Snow,—that the disease is propagated by germs contained in the cholera evacuations, which germs are distributed through the air and in the water which is used for household purposes, in consequence of the want of proper attention to cleanliness. The swarms of flies which have been noticed at Newcastle during the present epidemic, and which were noticed in the epidemic of 1832 at Montreal, by Dr. Moore,† and about the same time in a village near Edinburgh, by Dr. Knox,‡ may possibly have something to do with the matter. They seem, at least, to mark one phase of that blight in vegetation and murrain among cattle, which has preceded the cholera scourge, and which still attends upon it. The fact is curious under any circumstances. The account of the swarms at Newcastle is by an anonymous writer to the 'Lancet,'§ who states that he is not a member of the medical profession. The cholera was at its height in the time referred to,—September 21, 1853. The writer proceeds:

> The air in certain parts of the town is literally filled with a small fly with large wings, slightly tinged with green. I especially instance a space extending from the top of Northumberland Street, in this town, to the town moor, and even across the moor. The numbers of this fly, were, I found, greater over a sort of open drain at the end of the moor, which is crossed by the road more than half a mile from the town, there being merely a dwarf parapet to prevent any one falling in. In fact, this fly appeared to me to be spread generally over the district, and where the town commences, there

* Lancet, Nov. 12, 1853.
† Ibid., Oct. 1.
‡ Ibid., Oct. 16.
§ Ibid., Oct. 1.

the insects are more confined in space, and crowded in a dense cloud, and therefore more apparent.

I am not at all an alarmist, but I never in all my life saw anything like the quantity of this fly which I saw this afternoon when I went out for a walk before dinner. It was not a mere cluster of little clouds which could each be encircled in a hat, but a dense column, extending in space beyond the power of vision to discover where it commenced and where it ended. I palpably walked into it and out of it as I have done in and out of a London fog. I shall never forget it. What is to be expected from the death and decomposition of this mass of insect matter?

The clearer notions about the local origin of cholera, and of the intimate relations subsisting between the disease and the various forms of fever, has resulted in clearer notions upon the subject of *prevention*. These have shown sufficiently that it is in ventilation, in drainage, in personal cleanliness, and in other measures of the same kind, and not in quarantine, that any rational hopes of safety must rest. Dr. Gavin Milroy,* however, has collected some additional facts in proof of the futility of quarantine. He writes:

The whole history of this formidable pestilence is so interesting and instructive on all points of epidemiological inquiry, that it must ever occupy a very prominent place in every attempt to ascertain the laws which influence the development and diffusion of wide-spreading diseases. No epidemic, moreover, has been so minutely and extensively observed, and of none have we such varied and thoroughly trustworthy records. We can trace its career almost step by step, and with something of the connected sequence of an historic narrative, from the time when it first—after having been for ages, for all that we know to the contrary, limited to one district of Asia, viz., Hindostan—began to assume the character of a great migratory pestilence, and go forth, at the bidding of Almighty Power, upon its mission of warning and judgment, to the ends of the earth. Its course and progress can be followed on the map as we follow the track of any of those hordes of the human race which, breaking loose from their place of long abode in some remote corner of the East, spread themselves of old over the face of the European continent. We can mark the advances of the invading foe from country to country; we can tell how long it was upon its successive marches; the dates of its arrival in different parts, the rapidity of its movements, the length of its stay, the places which it ravaged, and the very districts in each place upon which its chief fury fell. We know the means that were taken in every country that was invaded to avert the stroke, to keep the enemy out, or to resist its progress and mitigate its ravages; and we know, too, the amount of success or benefit which attended the efforts that were made. We know that the Russian government, in 1831, having tried quarantine, and other like measures to protect different parts of its dominions, speedily found their utter inefficacy, and abandoned all attempts of the sort; that the Austrian Emperor formally declared that his government "had committed an error in adopting the vexatious and worse than useless quarantine and cordon regulations against cholera," frankly admitting that it did so before the nature of the disease was rightly understood; that Prussia, too, having in vain tried the same expedients, was forced to give them up; that in our own country measures of the most extraordinary stringency to prevent the introduction, and to arrest the spread of the pestilence, were at first recommended and attempted to be

* Association Medical Journal, July 22, 1853.

carried out, and that they proved so utterly valueless that they were promptly discontinued, and the government of the day intimated, in the speech delivered from the throne, more than incredulity as to their use and expediency; that the French Academy of Medicine formally declared their opinion to the same effect; and that transatlantic experience, both in the United States and Canada, in 1832, testified to a similar result. We know that, in the following year, the disease found its way into different ports of Spain, notwithstanding a rigorous quarantine; that, in 1834, it eluded the vigilance of the health officers at Gibraltar, as yellow fever had done in former years; also at Stockholm and other ports in Sweden, whose former immunity had been attributed to the stringent precautions of defence which had been taken; that, two years subsequently, Genoa, with its well-appointed lazaretto and numerous quarantine staff, failed in its attempt at exclusion; and that Naples and Rome were equally forced to acknowledge the impotence of all their efforts. Nor was Malta more fortunate. Hitherto it had escaped, in consequence, many persons believed, of its insular position, and the strictness and efficiency of its quarantine establishment; and its exemption at a time when the pestilence was in Egypt on its one hand, and in Gibraltar and the south of Spain on its other, might certainly, with some show of reason, lead those, who form their opinions of epidemic diseases from the observation of what is going on in one or two limited localities, to this conclusion. But dismal experience now baffled the fond expectation, and proved the insecurity of the trusted means of defence.

Such were the lessons taught by the first world-wide migration of Asiatic cholera. After 1837, the pestilence ceased from the face of Europe for the next ten or eleven years—although scattered cases occurred every now and then in the various countries which had been affected, and a certain choleraic impress, so to speak, on the character of febrile and other diseases continued to be frequently observed.

The dark cloud once more appeared in the eastern horizon in 1845. Ere long, it became larger and more threatening, and steadily advanced in its march of destruction westward, following pretty nearly the track of its former career, and setting at defiance all mechanical attempts at exclusion where these were again attempted. Again did the quarantine authorities of this country issue some detentive regulations against vessels arriving from infected or suspected parts on the continent; but these, as will be probably remembered, were promptly abrogated, upon the recommendation of the General Board of Health, then recently instituted. The policy of this step was fully recognised by the London College of Physicians, whose well-considered opinion stands in the following words:—"Cholera appears to have been very rarely communicated by personal intercourse; and all attempts to stay its progress by cordons or quarantine have failed. From these circumstances, the committee, without expressing any positive opinion with respect to its contagious or non-contagious nature, agree in drawing this practical conclusion, that in a district where cholera prevails, no appreciable increase of danger is incurred by ministering to persons affected with it, and no safety afforded to the community by the isolation of the sick." The Report of the Commissioners of Health in Ireland on the cholera epidemic of 1849-50 proclaims the same very important practical conclusions; and the medical authorities in Scotland have, I believe, emphatically recorded their opinions to a like effect. After such concurrence of judgment among the medical profession in this country, it is unnecessary to allude to that of our brethen abroad. It is all but unanimous; except, perhaps, in Spain and the Italian States, where other motives, besides those of truth and conviction, are well

known to influence the judgment of officials upon such matters. Nor is it undeserving of notice that, although these countries profess to place the greatest reliance on quarantine measures, and certainly carry them out with the greatest rigour, the experience of the recent epidemic has again shown their inefficacy against its invasion.* Malta, which, although a British island, may be regarded as truly Italian as regards her quarantine establishment, was again visited with cholera in 1850.

As far as I am aware, it has not been alleged by any person that it was then imported by shipping. Nor have the endeavours of the Spanish *guardas* to keep out the pestilence from Cuba, where the quarantine regulations are of the utmost stringency, been more unsuccessful. This was the only island in the West Indies that suffered during the first epidemic in 1834. In 1850, the enemy again found its way in by some channel that has never been discovered; and the development of the pestilence in Jamaica towards the end of the same year, could certainly not be traced to any neglect or violation of the quarantine, to whose agency the immunity of the island during the former epidemic had been ascribed.

Notwithstanding these facts, such is the dread of this plague in countries which have hitherto escaped its visitation, and such as hitherto, from long habit, been the vague and general belief that new diseases may be kept out by a system of rigorous medical police, just as interdicted articles of merchandise may be excluded by custom-house officers and coast guards, if these men will but do their duty, that the most extraordinary measures have been resorted to, in different places, within the last year or two, for the purpose of presumed self defence. For example, two years ago, at Demerara, a quarantine of forty days was imposed upon one of our ships of war, crowded with troops too at the time, simply on the ground that she had come from Kingston in Jamaica, although no disease existed in that town at the date of her departure, nor had a single case of sickness occurred on board during the voyage. This was, certainly, a precaution with a vengeance; and might, I need not say, have led to disastrous consequences to the unfortunate *detenus*, had not the captain wisely determined to go to another colony, where he might communicate with the shore, until the appointed time had expired for the landing of the troops at Demerara.

Something of the same sort recently occurred also at the island of Mauritius; so that you see what views are being still entertained, and acted upon too, by some of our own countrymen abroad. Let us not, therefore, boast of our superior enlightenment in matters such as that now under consideration, or be so prompt, as we are apt to be, to rail at the ignorant obstinacy and blind prejudices of foreign states, in refusing to go along with us in effecting the reform of various practices, however opposed these practices may be to the conclusions of scientific research and the acknowledged results of experience. Let it be remembered that the inconsistencies of our own Government have been often so flagrant, that foreigners may well call upon us to look at home, instead of setting ourselves up as their guides and instructors. They may remind us that, after two formal declarations of the inefficacy of quarantine to avert the cholera, an order was issued, no farther back than last September, from our Council office, reimposing what was called a 'Quarantine of Observation" in our own harbours on vessels, on board

* Professor Sigmund informs us that, in 1849, the disease made its appearance in Naples, Brindisi, Leghorn, and Genoa, in all of which places quarantine was maintained against its introduction; while Civita Vecchia, where no quarantine existed, escaped altogether.

which was "any person or persons actually suffering from cholera, or who had been suffering from that disease within the five days previous to the arrival of the vessel in port;"—such persons to be detained on board the vessel, and the vessel to be kept in quarantine "for such period as the medical officer employed to visit the sick might judge necessary for the security or preservation of the health of the community on shore."

The question of treatment is less satisfactorily determined, but even here there are some points on which valuable light has been shed. Bleeding and transfusion, hot baths and cold sheets, sinapisms and ice, inhalations of oxygen and inhalations of carbonic gas—the most opposite things and everything,—calomel, opium, salines, nitrate of silver, acetate of lead, creasote, quinine, steel, and almost every other drug in the Pharmacopœia, have been recommended in turn. The treatment by sulphuric acid, however, is that which seems to be of greatest promise. This treatment we have tested to a considerable extent at the Westminster Hospital in cases of choleraic purging. These cases, which have been very common during the last six months, many of them attended with depression, almost amounting to collapse, with violent cramps in the body, and frequently in the legs, we have treated invariably with half drachm doses of dilute sulphuric acid, with a drachm of the compound tincture of cardamoms, and a little peppermint water, and the result has been almost immediately beneficial. The constant answer of the patient has been that the first dose had relieved, and the second or third stayed the complaint. We have not had to treat a case of extreme cholera, but so satisfied are we with the results of the treatment in cases almost as bad, that in any case, however bad, we certainly should give the acid every quarter of an hour, with brandy and water internally, and heat externally. Nor is this practice quite empirical, for if this acid acts beneficially in hæmorrhage it may be supposed to act similarly in cholera, the serous discharge of which (to borrow an idea of Sir Henry Marsh,) may be called *a white blood hæmorrhage*. Several writers have called attention to this acid treatment of cholera during the past half year, particularly Dr. Fuller.*

In the summer of 1851 (writes Dr. Fuller), the attention of the Profession was directed to a strange and newly-discovered property of sulphuric acid. That which had been regarded as a frequent source of belly-ache and purging was vaunted as a certain cure for these evils; and medical men were called upon to examine and report upon this novel anti-cholera specific. It was not, however, until the month of September, 1851, that I had an opportunity of testing its efficacy in the cure of true choleraic symptoms. In that month, two most urgent cases of choleraic diarrhœa, attended by extreme collapse, violent and incessant cramp, pinched features, rice-stool evacuations, and matters resembling chicken broth rejected from the stomach, were admitted about the same time into St. George's Hospital. Had these cases occurred in the autumn of '49, they would have been designated cases of Asiatic cholera; they differed in no respect from genuine cholera, and were entitled cases of choleraic diarrhœa simply because cholera was not then prevalent as an epidemic. In both these instances I administered sulphuric acid with

* Medical Times and Gazette, Oct. 1, 1853.

complete success; and as the action of the remedy could be attested by pupils and others, who witnessed the success of the treatment, I published in the *Medical Times and Gazette* (January 10th, 1852), a detailed account of the effects observed, together with the general result of my experience. It amounted to this—that the dilute sulphuric acid of the Pharmacopœia, administered in half-drachm doses, repeated at short intervals, has a powerful and immediate influence over the disease. The vomiting and purging cease, and the cramps subside, sometimes after the second, more usually after the third or fourth, dose of the medicine. The attack may leave the patient weak, and usually does so, in proportion to its severity, and the length of time which has elapsed before the administration of the remedy is commenced; but within three or four hours, the disease is arrested, and convalescence follows speedily. Indeed, in ordinary cases, the change is effected with such marvellous rapidity, that he who in the morning is so utterly prostrate, in the evening experiences little ill effect from his fearful seizure.

I had hoped that this circumstantial report, backed as it was by the result of my own experience, extending at that time to twenty-seven cases, and as it has since been by the concurrent testimony of several practitioners in different parts of the country, would have led to a recognition of the extreme value of this treatment in all instances of choleraic diarrhœa, if not of cholera; at all events, it seemed but fair to presume that testimony so decided, in favour of a remedy so cheap, so harmless, so extremely simple, so uniformly successful, and producing its successful and striking results within so short a time of its administration, would at least have insured a trial of its virtues.

My own conviction is, that in sulphuric acid we have an antidote—a specific—against choleraic diarrhœa, if not against the worst forms of cholera, as powerful, as energetic, and as certain in its effect, as in cinchona bark, or quina, against a paroxysm of ague. In bilious diarrhœa, and in certain chronic diarrhœas, it is of little or no avail; and, in some, though in very few, according to my experience, it gives rise to pinching pain in the abdomen; but in epidemic diarrhœa, in acute autumnal diarrhœa, if I may so term it, and in more decided choleraic diarrhœa, I have known no single instance of its failure; indeed, the more choleraic the diarrhœa, the more speedily are its curative effects produced. This fact will appear of greater value when it is known that I have notes of its administration in above ninety such cases, many of which have occurred among my own patients at the hospital or elsewhere, and some in the practice of my friends.

With this, however, even more than with other remedies, success depends upon the mode of administration. Given at intervals of three or four hours, it fails in exerting any curative influence in severe cases, and is seldom of much avail, even in milder cases; and to ensure its beneficial effects, it should be exhibited in full doses, repeated at much shorter intervals. When I first began to give it, I ordered two doses to be taken within the first hour, and a dose to be repeated every hour afterwards. But recent and more extended experience, together with the close and eager observation of its influence on my own person, has convinced me that, even in ordinary cases, twenty minutes form a sufficient interval between each dose. In severe cases, five or six doses may be given with advantage within the hour; and should any dose be rejected by the stomach, another should be administered at once.* Rarely,

* Mr. Buxton, of Great George Street, Westminster, to whom the profession is greatly indebted for having been the first to call attention to the anti-choleraic properties of sulphuric acid, recommends the administration of half-drachm doses every quarter of an hour in severe cases. If those gentlemen who make trial of the remedy so strongly recommended by Mr. Buxton would use it as they ought, in the manner, and in the

however, is any dose rejected except the first, and the rejection of that is by no means common. While loathing the sight of other liquids, the patient, after he has tasted the first dose of the medicine, very generally craves for its repetition, and drinks it with avidity.

As the stomach is very irritable, and the acid taken in simple water is, under the circumstances, extremely palatable, I never mix it with syrup or other matters; and I strongly suspect the warm aromatic spices, with which some of my friends have flavoured it, are additions by no means agreeable to the patient. Unfortunately, I have had some personal experience in this matter, and so strongly was my distaste to the medicine excited by such flavourings, that for the future, whenever I am the patient, I shall certainly put my veto upon them.

The effects produced by this remedy are very remarkable. Sometimes, after the second dose, more commonly after the third, and almost always after the fourth dose of the medicine, the patient experiences a grateful sense of warmth at the epigastrium; heat returns to the extremities; the nausea and vomiting immediately cease, even if they have not been arrested already; the purging is stayed, the cramps subside, and the countenance reassumes its natural appearance. Very generally, perspiration breaks out, and the patient goes to sleep, and awakes refreshed, though feeling somewhat weak. The other symptoms betoken a like amendment. The tongue, which before was dry and furred, or shrivelled, becomes moist and but slightly coated: the evacuations from the bowels assume a healthy colour, and are accompanied by an unusual discharge of bile; and the pulse regains its normal steadiness.

Such being the case, it is unnecessary, in mild or ordinary instances, to have recourse to any further treatment. With due precaution as to over-exercise and fatigue, and strict attention to the amount and nature of the diet during the next few days, so as to allow the stomach to recover its wonted energy before its powers are again fully taxed, the patient usually recovers without let or hindrance. The bowels act regularly without the assistance of medicine, and the dejections are of a healthy colour and consistence. But in severe cases, if care be not taken to maintain the good effects already produced, a relapse may occur, or recovery may prove tardy. The patient, though no longer troubled with diarrhœa, may digest imperfectly, and suffer greatly from nausea. For some time after these severe attacks, the secretion of bile takes place irregularly, and the bowels become costive or irritable, and the motions dark-coloured and offensive. Hence it is sometimes expedient to follow the sulphuric acid by two or three grains of blue pill, or a grain of calomel, administered at bed-time for a few successive nights, taking care during the day to impart tone to the stomach by the exhibition of some light bitter infusion, combined with potash and ammonia, small doses of tincture of rhubarb, and, if necessary, a little chalk. By some such means as these, all unpleasant after-symptoms are prevented, and the patient proceeds steadily to convalescence.

On several occasions, it has occurred to me to try whether the same effects might not be produced by continuing the administration of sulphuric acid at intervals of six or eight hours. But the result of the experiment has not been

dose he directs, and administer it only in proper cases, we should seldom, if ever, hear of its failing to arrest the course of the disease. In every instance within my own knowledge in which it has failed in its efficacy, the blame has been chargeable upon those who have administered it, rather than upon any want of virtue in the remedy itself. They have either given it in insufficient doses, or else in cases of bilious diarrhœa, with foul breath and loaded bowels, which would have been benefited by a brisk purge of calomel and rhubarb.

encouraging. In some few instances the patient has improved steadily, but occasionally he has experienced a relapse, and has generally been longer arriving at perfect health than under the plan already indicated. Hence, as soon as the urgent symptoms have been subdued— *i. e.*, after the first few hours—I usually discontinue the acid, and, if necessary, have recourse to the treatment above recommended as most conducive to the maintenance of its good effects.

The only other point to which we would direct attention, relates to the injection of salines into the veins in certain cases of cholera. Dr. Owen Rees has written upon this practice,* and his remarks and cautions are of considerable value to those who may be disposed to carry it into effect. Dr. Rees writes:

As the cholera has again visited this country, I venture to direct the attention of the profession to a point of considerable importance as respects the application of one of the remedies for the disease. With the view of recovering some of the worst cases, and when other remedial means have been unsuccessfully tried, practitioners have occasionally injected saline fluids into the veins. As this proceeding has been attended with great advantage in several recorded cases, and has produced in nearly all a temporary good effect, it has appeared to me that had the injected fluids been composed in more strict accordance with the chemical and physical constitution of the blood than was the case, we might have obtained advantages from the injections very far exceeding those we have on record.

With regard to the chemical constitution of the fluid, it would appear that we can scarcely venture to interfere with the organic constituents of the blood, nor imitate the animal extractives and protein compounds of the circulating fluid, in order to supply them if deficient. There is, however, no occasion for this in Asiatic cholera, for the evacuations from the intestinal surface, which destroy the healthy characters of the blood in that disease, appear to contain but little organic matter, being chiefly made up of water holding the salts of the blood in solution. Thus Vogel and Wittstock agree in describing cholera motions as containing intestinal mucus, traces of albumen, and the ordinary salts of the blood, with carbonate of soda somewhat in excess. The analysis of cholera blood again points clearly to the necessity of supplying more especially salts and water, if we desire to restore it to the healthy standard.

With these facts before us, it is obvious that if we inject the veins at all, a solution of the salts of the blood is indicated in cases of Asiatic cholera: and it would seem well that those who may think it advisable to have occasional recourse to that plan of treatment for the recovery of severe and advanced cases, should keep a mixture of saline ingredients, combined in the proportions (or as nearly so as possible) observed in healthy blood. In order to answer the above requirements, I would recommend the following powder to be prepared, and kept ready for solution:—Chloride of sodium, three ounces; phosphate of soda, one ounce; carbonate of soda, one ounce and a half; sulphate of soda, half an ounce.

As regards the physical peculiarities of the fluid for injection, it is quite as important that its characters in this respect should be attended to as that its chemical constitution should bear its proper relation to the blood. The specific gravity and temperature of the injection will require to be carefully adjusted before we can expect to put our patient under the conditions most favourable for recovery when mixing it with the blood. With regard

* Lancet, Oct. 1, 1853.

temperature, but little need be said; 98° Fahr. is necessary, as being that of healthy blood; and I would only remark, that it should be determined by a correct thermometer, and not by one of those cheap instruments with which the market is just now unfortunately inundated. The specific gravity should be adjusted by gradually diluting a strong solution of the saline mixture above described with small portions of distilled water, at the temperature of from 58° to 63° Fahr., occasionally testing it with a saccharometer, (the ordinary instrument used in the examination of urine), until the instrument indicates a specific gravity of 1030. This being attained, the fluid has merely to be brought to the temperature of 98° Fahr. to fit it for use.

It is not my intention to enter, on this occasion, upon the reasons why it is so absolutely necessary to attend to the specific gravity of the injected fluid, further than to state that I have adopted that of the serum of the healthy blood, which has a specific gravity such as acts on the blood corpuscles by producing a gradual endosmosis, and thus avoids the evil effects which solutions varying much from the same weight inflict on those bodies.

In conclusion, I would beg to refer those who may be interested in this question of the effect produced on the blood by solutions of various specific gravity, to a paper by Mr. Samuel Lane and myself, contained in the thirteenth number of the *Guy's Hospital Reports*, and also to remarks having reference to the physical structure of the blood, contained in the second edition of my work on the 'Blood and Urine.'

P.S.—Since writing the above, I have seen, in the tenth volume of the *Medical Gazette*, the prescription for preparing the fluid used by Dr. Lewin and others for injecting the veins, and have ascertained, by experiment, that the specific gravity is so low as to endanger the integrity of the blood-corpuscles if mixed with the blood. This danger is increased in Asiatic cholera, inasmuch as the corpuscles, owing to the drain of fluid which has occurred, contain a more concentrated fluid than in health, and will therefore be more easily destroyed by the presence of fluids of low specific gravity.

2. *M. Aran on the internal Use of Tincture of Iodine in Typhoid Fever.**—M. Aran has recently employed small doses of tincture of iodine with great advantage in the typhoid fever, which at present rages epidemically in Paris. The scene of trial was the Hôpital de la Pitié. The results, so far as they go, are stated to have been very satisfactory—the tongue becoming moistened, and the abdominal pain and purging abating almost immediately, and this without nausea, vomiting, or any other unpleasant symptom. The dose for an adult was five drops upon a little sugar, or in a little syrup, and repeated, according to circumstances, from three to six times in the twenty-four hours. M. Aran was led to try this plan of treatment from the beneficial change in a case of typhoid fever, in which iodine had been given to check a profuse salivation, arising out of a previous administration of calomel.

3. *Dr. Todd on the Treatment of Typhus by large Doses of Brandy.*†—Mr. Macnamara, Dr. Todd's clinical clerk, reports the particulars of 18 cases which were treated, at King's College Hospital, in this manner. They all were of a well-marked typhus type, and

* Rév. Médico-Chirurg. de Paris, April, 1853.

† Medical Times and Gazette, Aug. 27, 1853.

agreed in presenting the following symptoms previously to the commencement of the treatment: — A copious eruption of scattered measle-like spots (mulberry or typhus rash); bowels either confined or but slightly relaxed; great prostration of strength; delirium (in six cases, coma was present); a small and very rapid pulse. It may be well to premise, that they were treated as is done in almost all general hospitals in the open wards, their beds being purposely arranged so as to occur at some distance from each other, in order to prevent the accumulation of contagious emanations. The treatment pursued consisted in administering, either every hour or every half-hour, day and night, from half an ounce to an ounce of brandy, with a draught every second hour, containing sp. æth. chlorici ♏ x.; ammoniæ carbonatis, gr. v; aquæ, ℥j. The patients were induced to drink as much strong beef tea as possible; the head was always shaved; and, in most, a blister was applied to the scalp. We are indebted to the careful observations, noted daily by Mr. Macnamara, the clinical assistant in charge of the cases, for the whole of the particulars respecting them. The first to which we shall allude was a very severe attack, and happened to an elderly and unfavorable subject. The beneficial effects of the alcoholic stimulant is strikingly shown.

Elizabeth B—, æt. 70, was admitted June 16, 1853. She complained of severe headache, and of much pain in her limbs; was very deaf, and could see but very indistinctly. Her daughter stated, that the two latter symptoms had commenced four days previously, and the illness was of about a fortnight's duration, having begun with aching pains in the limbs and head, and great prostration of strength, followed, after four or five days, by several successive shivering fits. Pulse, 122; tongue thickly furred.

℞ Tinct. opii, ♏ xx. h. s.

℞ Sp. am. arom., ♏ xx;
Aq. pur., ℥iss. 4tis horis s.

18th.—The skin of chest and abdomen is covered with an eruption of measly spots. The patient has been delirious during the night; her tongue is dry and furred; pulse 124; the bowels have acted but once since admission. Pt.

19th.—Has been very delirious; pulse, 126; other signs as before.

℞ Am. carbon., gr. v;
Sp. æth. chloric., ♏ xv;
Aq., ℥iss. 3tis horis.
Wine, ℥viij, per diem.

21st.—Much worse; lies in an almost comatose condition, and allows her urine and fæces to pass into the bed. Pulse, 130. The head is to be shaved, and a blister applied. Instead of the wine, half an ounce of brandy is to be given every half-hour.

R. M.

22d.—Pulse 124. The half-comatose condition still continues, and is only interrupted by low, muttering delirium.

23d.—Pulse 120. The coma is passing off, and the delirium is less constant during its intermissions. The spots have now entirely disappeared from the skin. The patient takes her beef-tea much better than she did.

24th—Pulse 114. This morning the head symptoms are much less

severe; and, on being questioned, the patient occasionally returns rational answers. The bowels act daily, but are not loose. To continue the same treatment.

25th.—Pulse 96. The skin for the first time is moist. The patient states, that she feels much better, and can be got to understand clearly where she is, which has not been the case on any previous occasion since her admission.

26th—Pulse 90. To take half an ounce of brandy every two hours.

From the last date she continued to improve. To aid her convalescence, quinine and other tonics were administered. She was discharged quite well, six weeks after admission.

In the next case, the progressive decrease in the frequency of the pulse subsequent to the employment of the stimulant, was equally well marked as in the above. It occurred in a much younger subject.

James E—, æt. 18, began to feel ill on the 27th of June; and, on the 29th, was seized with shiverings, pain in the limbs, and great prostration of strength. He was admitted into the hospital on July 5; and, at that time, the skin was hot and dry, and covered with the typhus rash. The ocular conjunctiva of each eye was red and congested, and the tongue brown and furred. Pulse 112.

℞ Am. carb., gr. v;
Aq. pur., ℥iss. ter die.

Beef-tea *ad libitum*.

July 6.—Pulse 120. The bowels have acted once to-day. Delirium was present during the night.

R. M.

7th.—Pulse 124, very weak. The delirium has been so constant, that the nurse has found it impossible to induce him to take any nourishment. Rep. Mistura. The head is to be shaved, and half an ounce of brandy administered every hour.

8th.—Pulse 120, still very feeble. Bowels act daily.

9th.—Pulse 112. The delirium is much abated, and the patient takes his beef tea well.

11th.—Pulse 100, much improvement. The brandy is to be continued.

12th.—Pulse 92. For the first time the skin is moist and perspiring. From this date the patient gradually recovered.

At one time, most of the members of an Irish family living in a dirty alley in the neighbourhood were in the hospital together, all suffering from the same type of fever. The following case is that of one of the sons:—

John C—, æt. 15, admitted June 28, having been seized on the 23d with shivering, pains in the limbs, prostration of strength, and severe purging. He had, at the time of admission, the usual symptoms of fever, was very restless, and at times slightly delirious. The bowels were not much relaxed; there was loud rhonchus heard over both lungs. Pulse 116, skin hot and dry. To drink beef tea.

29th.—Pulse 118, very feeble. The delirium is increased. Half an ounce of brandy every hour.

July 1.—No improvement. Pulse 120, and very weak. The boy lies in a semi-comatose condition. Believing that the administration of the stimulant had not been well attended to, Dr. Todd ordered a special nurse for the case, and directed that the brandy and beef-tea should be regularly given day and night.

2d.—Pulse 100. The patient is less stupid, and seems to understand the questions which are put to him.

4th.—Pulse 92. There is no delirium present. The tongue is much cleaned, and the respiration is unattended by any degree of rhonchus.

5th.—Pulse, 80. The skin is moist. The brandy is to be given every two nours.

8th.—Is rapidly getting better. The brandy is discontinued and two pints of porter per diem substituted for it. From this time the patient very quickly recovered.

Out of the whole 18 cases, but one terminated fatally. The subject of it was very violently delirious on the day of her admission, and no account of her previous symptoms could be obtained. Death occurred on the third day afterwards. On making the autopsy, the brain was found to be slightly congested, and the grey matter was of a darker colour than usual. Peyer's patches in the small intestines were enlarged and very distinct, but not ulcerated. The spleen was enlarged, full of blood, and very soft; but all the other organs appeared to be in a normal condition.

Excluding, then, this fatal case, we will now examine the condition of the circulation in the remaining 17, more especially with regard to the influence of the treatment upon it. On the day that the administration of brandy, &c. was commenced, the pulse had, in five cases, a frequency of 136 per minute; in three, of 126; in seven, of from 120 to 126; and in one, of 116. After the measures above specified had been pursued for four days, the pulse had, in eight cases, fallen to 92; in five others, it had fallen below 92 on the fifth day; and, in the remaining four, to below 90 on the sixth. Again, taking the day on which treatment was commenced as our starting-point, the skin, previously hot and dry, relaxed, and became moist and prespirable, on the fifth day, in nine cases; on the sixth day, in five cases; on the twelfth day, in one case; and in the remaining two the date of this crisis was not recorded.

The degree of success exhibited by the above facts is, we suspect, very considerably beyond that usually obtained in cases of so severe a type as those under consideration, and is very encouraging to a pursuance of a similar plan of treatment in future. That the success did really depend on the treatment, appeared to be conclusively evidenced in several cases, in which the pulse, progressively increasing in frequency up to the time that the brandy was ordered, steadily fell from that day forwards. The relapses of one or two, in consequence of the accidentally inefficient administration of the remedy, also afford important support to the same conclusion. In respect to the numerical age of the fever at which the brandy treatment was commenced, it varied so much in the different cases, that there does not appear to be any practical advantage in attempting to state it. In all, however, the first stage had passed, and low "typhus" symptoms had become fully developed. Dr. Todd is continuing the same plan of treatment on the fever patients now under his care, and hitherto with very pleasing results.

4. *Dr. Edwards on the Condition of the Urine in Typhus and Typhoid Fevers.**—Since the researches of observers, and more especially of Dr. Jenner, have established the fact that typhus and typhoid fevers are essentially different diseases, and that the poison of the one does not produce the other, every diagnostic feature becomes of interest. The author's object, in the present paper, is to show that a

* Edinburgh Monthly Journal, Sept. 1853.

difference in the qualities of the urine exists, and that in the one fever one condition of this secretion, and in the other another condition, supervenes at about the same stage of the disease.

1. "*Of the Urine of Typhus Fever.*—The characters of the urine of typhus fever which I desire to point out are—(1) *That it is generally pale;* (2) *That it is of rather low specific gravity;* (3) *That it contains albumen* at an early period of the disease. The colour and appearances of the urine to the naked eye is indicated in the tables appended, and requires no further notice.

"It has been remarked by Lehmann, that albumen not unfrequently appears for a short time in the urine, in many acute diseases unconnected with affections of the kidneys. It has been found in pneumonia, erysipelas, scarlatina, phthisis, and various other disorders, including typhoid fever. 'In febrile diseases, properly so called, and particularly among the exanthemata,' according to Dr. Begbie,* 'a temporary albuminuria may frequently be observed at two distinct and different periods of the disease, the first at nearly the outset of the febrile excitement, and the second towards the termination of the case, when the crisis is passed, and the process of convalescence commenced.' This remark does not strictly apply to typhoid fever, as will presently be shown; for when albumen appears in the urine during the progress of that disease, it is only 'after the crisis has passed.' Of this fact I am assured by my own observations, as well as by the testimony of others.

"In typhus, however, the urine becomes albuminous at an early period of the fever, and I believe that it invariably becomes so in this latter disorder; for of twenty cases in which I examined the urine, albumen, accompanied with low specific gravity, was present in fourteen, in which the urine was tested between the sixth and eighteenth day of the fever. In the remaining sixth, the urine was not tested before the twentieth day, at which period the albuminuria had ceased in all the cases in which I had previously found it to exist; and in five out of these six cases, the specific gravity was below 1,014, and therefore below the standard of healthy urine, and as albuminuria is almost constantly attended with low specific gravity, it appears not improbable that in these cases albumen might have been present in the urine at an earlier period than that at which it was tested.

"The specific gravity of the urine was low in all the twenty cases which I have recorded, and it was observed, that in the fourteen cases in which albumen was detected, the specific gravity rose gradually, in proportion as the albumen disappeared, until at length it acquired a healthy standard.

"The explanation which may be given of this state of the urine is perhaps somewhat doubtful, but it appears highly probable that the kidneys become congested at an early period of the fever, and that the effusion of serum is a consequence of the congestion. The results of the post-mortem examinations recorded by Dr. Kirkes, in his position as Medical Registrar at St. Bartholomew's Hospital, at all events favour this view of the matter; for in six out of seven cases of typhus†

* Medico-Chirurgical Review, July, 1853.

† *I. e.* Fever without any lesion of the small intestines.

which he has reported, the kidneys were found to be in various stages of congestion. In five it was stated that there was 'no distinct deposit,' and two were 'dark, mottled, smooth, friable.'

"It must not, however, be forgotten that in typhus the blood is undoubtedly in an altered condition, and that this state of the blood may be the cause of the congestion, or even the direct cause of the effusion of serum.

2. "*On the Urine in Typhoid Fever.*—Several writers have noticed the more obvious qualities of the urine of typhoid fever, namely, its bright amber colour, and its high specific gravity. It has been more recently observed that it deposits on the addition of an acid a non-albuminous precipitate, at nearly the same period of the disease at which, in cases of typhus fever, albumen is present.

"On the addition of a drop of any mineral, or of acetic acid to a moderate quantity of the urine of a typhoid fever patient in a test tube, a precipitate falls, generally very abundant, like a dense cloud, and to the eye, very like albumen; but upon the addition of an excess of acid, or of a solution of potash, or upon the application of heat, the precipitate entirely disappears; in the last case, however, generally reappearing when the solution becomes cool.

"It is almost certain that this precipitate consists of urates, not only from the reactions already mentioned, but because, as Dr. Bence Jones and Dr. Garrod have observed, uric acid crystallizes out of it after some hours. A fact confirmatory of this view is, that in rheumatic fever, where the urates are deposited spontaneously, if the deposit be dissolved in liquor potassæ, it may be again precipitated in a form precisely similar to that produced in the clear high-coloured urine of typhoid fever, by a drop of acid.

"This precipitate is not peculiar to typhoid fever, for Dr. Jenner in one of whose cases at the Hospital for Sick Children, I first observed it, tells me that he has found it in a case of meningitis, and I have myself seen it in the urine of scarlatina at the period when 'febrile excitement' prevails. And it is well known that salts of uric acid are deposited from the urine in very many febrile conditions of the system.

"The precipitate which I have described takes place in the urine of typhus fever in a very large proportion of cases, and, as I believe, invariably. I found it in thirteen out of eighteen cases in which I examined the urine of patients suffering from this disease. The remaining five were all in the end of the third, or in the fourth week, when the disease may be said to have ceased.

"In all the cases albumen was absent, and I believe it will always be found absent, when the kidneys are previously healthy, during the continuance of the fever, or at least during the early period at which albumen appears in typhus; and in the instances in which albumen has been observed in the urine of typhoid fever, the crisis of the disease had probably passed.

"In those of my cases in which the non-albuminous precipitate was produced, the urine had a high specific gravity, a condition in which it accords with the urine of most diseases attended with febrile excitement, and one in which it again differs from typhus fever.

"It is an interesting fact, that in cases of typhoid fever fatal before the fourteenth day, the kidneys are not generally congested, as they are in typhus at the same period of the disease; for of thirty-four cases recorded at St. Bartholomew's Hospital, by Dr. Kirkes, they are reported as congested only in ten, in all of which the disease proved fatal after the fourteenth day. The fact that the kidneys are thus congested at a late stage, agrees with the observations above referred to, that 'after the crisis is passed,' albumen does occasionally appear in the urine of typhoid fever.

"The foregoing facts seem, then, to render the following conclusions highly probable:—(1) That albumen appears in the urine of every patient affected with typhus fever, at an early period of the disease, and that in such cases the urine is of low specific gravity; (2) That in the early stages of typhoid fever albumen is absent, while, on the other hand, the urine has an unnaturally high specific gravity, with excess of one of its natural constituents, viz., urate of ammonia; and (3) That the state of the kidneys in either disease corresponds with the condition of the urine, these organs being congested in typhus, and generally healthy in typhoid fever."

5. *Dr. Mackenzie on the possibility of treating Glanders successfully by large doses of Carbonate of Ammonia: Illustrated by two cases.**—Several cases of this disease, presenting no features of interest, are scattered through recent numbers of English and Foreign Medical Journals. The subjoined cases, however, differ from all others of the kind, and their difference is of such a character as to demand the most serious attention, by begetting hope where there was none previously. There can be no doubt as to the reality of the disease, for if there could be any in connexion with the second case, the accompanying note of Mr. Mavor must set it at rest.

Case I.—W. W—, a horsekeeper, æt. 58, was admitted into the Paddington Infirmary, late in the evening of the 19th July. He was seen by Dr. Mackenzie the next day, and appeared very dangerously ill. His face generally was swollen and suffused, but more especially in the submaxillary region. A large quantity of saliva was pouring from his mouth, his breath was extremely fetid and sickening, his gums were swollen, and his teeth loose—some indeed were merely hanging from the gums. The tongue was much enlarged, and could not be protruded beyond the margin of the teeth, and it was forced upwards against the roof of the mouth by the swelling of the salivary glands below; the throat was constricted, and consequently both breathing and swallowing were difficult. His nostrils were filled with a thick glutinous secretion of an offensive odour, which was with difficulty dislodged. The patient had been very restless all night, had been constantly throwing his arms about, was alternately chilly and hot, and at times sweated profusely; he had a quick pulse, and was in a state of extreme prostration. Looking to the profuse salivation, the condition of the salivary glands, the extreme fetor of the breath, and the state of the gums and teeth, the first impression was that he had been severely salivated with mercury. It appeared, however, that he had not taken a particle of this medicine for some time, and his general symptoms were, moreover, inconsistent with this view. He had begun

* London Journal of Medicine, Sept. 1851, and Sept. 1852.

attending to some glandered horses on June 18th; and, in grooming them, frequently had the secretions blown on his face; and the stench of the stable was very great. In a few days, he began to feel feverish and ill, with loss of appetite, and disorder of the stomach.

On July 13th, while cleaning the horses, he felt completely overpowered by the stench; and he became so ill, that he was obliged to leave the stable abruptly. He was now seized with severe headache and giddiness, and swelling of the face. Lachrymation and profuse salivation soon followed. He said that half a pint of fluid ran from his mouth in the course of an hour; his teeth became loose, and the gums painful and tumid. His tongue began to swell, his throat felt constricted, and his nostrils became filled with a thick, yellow, fetid, glutinous secretion. He had frequent rigors, succeeded by heats and cold sweats, and he felt very low and weak. He was now obliged to give up his work, and was advised to take some gin, which, together with beer, he drank from time to time; but his stomach was so irritable that very little would stay upon it.

When admitted into the Paddington Infirmary, he was in a very exhausted state; he breathed with difficulty, and could scarcely swallow some wine which was given him. The fetor from his mouth was most intolerable; he was restless, passed the night without any sleep, and was observed to throw his arms continually about.

On the following day, his breathing was more difficult, and the swelling of his face increased; this was most marked under the lower jaw, where it formed an enormous tumour. There was a profuse discharge of saliva running from his mouth; the tongue was tumid, and its surface was covered with a white, moist fur; the gums were soft and swollen, and his teeth loose. On passing the finger under the tongue, a large elastic tumour was felt on each side of the frænum linguæ, apparently consisting of the enlarged sublingual and submaxillary glands, and the distended ducts of the latter. Dr. Mackenzie made a free incision in each of these; and a great quantity of clear glairy mucus poured out, which gave the patient much relief. Dr. Mackenzie was unable to examine the throat, on account of the general swelling of the parts; but from the character of the breathing and the difficulty of swallowing, it was evidently swollen, and the isthmus faucium contracted. He could not, however, see any erosion, ulceration, or pustules. The nostrils were filled with a viscid, yellow, opaque secretion, which was with difficulty dislodged, on account of its tenacity. The conjunctivæ were injected, and the eyes watered profusely. The patient complained of severe headache, which was greatest over the eyes and frontal sinuses, but at times it was felt over the greater part of the head. He was very sick, could not retain food upon his stomach, and was very restless and uneasy. He stated that he had not slept for a week. He was alternately chilly and hot, and, at times, broke out into cold sweats. His pulse was quick and weak, and he complained of great lassitude. He had no rheumatic pains, or any perceptible eruption on the skin or mucous membrane; the blister which had been applied had risen, and had a greenish, sloughy, unhealthy appearance. His bowels had twice acted during the morning, and he had passed water freely.

He was directed to take immediately an emetic, consisting of half a drachm of ipecacuanha; and, as soon as vomiting had ceased, to take five grains of the sesquicarbonate of ammonia in water every hour, using as little water as possible; to use frequently a gargle of the chloride of lime, and to have wine and such nourishments as he could swallow given freely, and to take at night an opiate, consisting of twenty drops of the tincture.

July 21st. On visiting him in the afternoon, his appearance was in every

respect improved; his face was less swollen, as was also the tongue and salivary glands. He spoke, breathed, and swallowed better. His tongue was reduced in size; he had slept comfortably during the night, and taken nourishment, such as beef-tea, freely. His pulse had fallen to 80; the skin was cool, and he had experienced no rigors during the day. He said that the emetic occasioned copious vomiting of green unhealthy matter; and that as soon as this had taken place, he felt relieved, and as if a load had been taken off him. He subsequently took the ammonia as directed. He was ordered to continue this, and to take five grains of blue pill at bedtime, as the tongue was still rather white.

He continued to improve under this treatment. The ammonia was discontinued on July 25th, and he then took nourishing diet, with a pint of porter daily. He was discharged cured on July 28th.

Case II.—C. K—, a stableman, æt. 47, of temperate and regular habits, was admitted into the Paddington Infirmary on the 24th October, 1851, suffering from extensive gangrenous inflammation of the left foot. It was extremely swollen, was of a dark livid colour, and very painful and hot; the pain was aggravated by the slightest touch. At the outer ankle, extensive sloughing and vesication had taken place, attended with an offensive sanious discharge. The patient had for some days previously suffered from frequent rigors, and at the time of his admission was labouring under a low typhoid form of fever, was at times delirious, complained much of nausea and sickness, and had not slept for many days or nights. His tongue was coated, his pulse feeble, and there were numerous pustules on his face, neck, and shoulders.

The case was considered to be one of gangrenous erysipelas, attended with much constitutional prostration. He was ordered immediately an emetic of ipecacuanha; after vomiting had taken place, three alterative doses of blue pill, at intervals of four hours between each; and the sesquicarbonate of ammonia, in five-grain doses, every two hours, as concentrated as he could swallow it, and to be supplied frequently with cordials and light nutriment. The foot was kept elevated, and covered with warm bread-poultices, saturated with carrot-juice. This treatment was continued for five days, with very satisfactory results. The general condition of the patient had much improved; the prostration had lessened, and he felt altogether better. It had been necessary, however, to give him opiates at bed-time, on account of his restlessness and inability to sleep.

On the fifth day after admission, two dusky patches of inflammation appeared, the one on the inside of the knee, the other a little below it; and on each of these patches a small circumscribed tumour arose, about the size of a walnut. These were painful and tender, and in the course of a day or two suppurated. The character of these tumours led to further inquiries, and the information obtained tended to connect the disease with infection received from a horse. The patient had nearly all his life been engaged in stables, and accustomed to the care of horses; about three months previously to his admission, he had given a ball to a horse, which had a profuse, unhealthy discharge from the nostrils, of a thick, yellow, tenacious character. In giving the ball, the little finger of the patient's right hand was scratched and abraded by the teeth of the horse; and, on withdrawing it, the discharge from the nostrils fell upon this abrasion. The same night the finger became extremely painful and swollen; and, shortly afterwards, the swelling extended to the whole of the arm, which became also very painful. On the following day, he applied at St. George's Hospital, where free incisions, &c., were made in the affected parts, and, by dint of these and other appropriate measures, the severity of the local affection was subdued. Three weeks after the accident, the left foot

was attacked with inflammation of a dark purplish colour, which, after subsiding, in the course of two or three days returned, and continued to do so at intervals. Dr. Mackenzie was led to suspect that the disease of the foot and leg was connected with the morbid secretion which had been received from the horse; and a patient in the ward, who was well acquainted with the phenomena of farcy and glanders in the horse, examined carefully the swellings about the knee, and remarked, that they had very much the character of "*farcy buds.*"

From this time, small circumscribed tumours or swellings of the same description began to appear upon the dorsum of the affected foot; at first they were hard and tubercular, and about the size of a pea; but, in the course of a day or two, they became as large as a walnut, then suppurated, and discharged their contents into the subcutaneous cellular tissue of the foot, whence they formed a passage to the ulceration around the ankle, and there escaped. Swellings, or rather abscesses, of this description continued to form, in succession, upon the foot; so that, in the course of a month, as many as fourteen had appeared. At first they had the character of small tubercles, which softened, and became abscesses; but, after a time, their contents became more and more serous, and at last consisted of a small quantity of watery fluid only.

Ammonia was given, in a concentrated form, every two hours; opiates and alteratives were occasionally given at bed-time, and throughout the patient was kept up by a liberal allowance of wine, cordials, and nourishing food. These measures were urgently required, as the amount of sphacelation and sloughing on the foot during this period, as also the constitutional prostration, were very great. At the end of the month, however, matters had greatly improved; the febrile symptoms had lessened, as well as the prostration; the appetite had returned, the tongue was clean, and the patient slept well at night; the sloughing of the foot had also ceased, and the ulceration left by it had assumed a healthy character; the disposition to the formation of abscesses, or "buds," on the dorsum, however, still continued, and, to meet this, the liquor arsenicalis, in five-minim doses, three times a day, was substituted for the sesquicarbonate of ammonia. In the course of a week from this alteration in the treatment, the disposition to the formation of these abscesses ceased, the ulceration of the foot continued to heal favorably, and the patient's recovery was steady and satisfactory from this date. The foot, however, remained for some time œdematous and tender, after all other morbid appearances had ceased.

"*Remarks.*—Although the history of this case, taken in connexion with the peculiarity of the symptoms, point to its farcinomatous nature, I should not have ventured to have published it as one of farcinoma, if I had not in the first place forwarded the preceding report to Mr. Mavor, the eminent veterinary surgeon, and received from him the following testimony on this point:

Relative to the case you have been kind enough to introduce to my notice, I have great pleasure in giving my opinion, which is, that it was unquestionably one of the disease which, occurring in the horse, is termed 'farcy'; and I feel still further strengthened in this conviction, in consequence of the opportunity I have recently had of questioning and receiving a detailed verbal account of all the circumstances connected with the case, from the person who was the unfortunate subject of it.

With regard to the objections which, you presume, may be raised to the diagnosis, I do not think they are admissible, as each and all the

exceptions to the ordinary symptoms to which you refer, are very commonly met with in the horse, to which animal the disease must, properly speaking, be considered to be peculiar, he being the only one of all the classes in whose system it is spontaneously generated, the others receiving it only by transmission from him; and, therefore, it cannot form a matter for surprise, if, when the disease is introduced into the system of an animal in whom it must be considered as foreign, the train of symptoms should deviate in some, or even in a considerable degree, from their usual character and appearance.

In the case in question, however, I repeat, that no such deviation has occurred, but what is in accordance with the exceptions to the form in which it is met with in the horse.

I remain, &c. William Mavor.

"The objections which I had suggested as being likely to be raised against the farcinomatous origin or nature of the disease in the present case were principally the following: 1. That too long a period had elapsed between the infection of the system and the commencement of the local symptoms in the foot. 2. That the disposition to the formation of the suppurating tubercles, tumours, or 'buds,' was too limited, being confined to the affected limb. 3. The absence of any disease of the lymphatics, or of those inflamed cords which are described as occurring intermediately between the farcinomatous tumours. 4. The absence of any affection of the Schneiderian membrane.

"We are therefore, I conceive, justified in considering this case as one of farcinoma; and, as such, it furnishes an additional illustration of the remedial powers of the sesquicarbonate of ammonia, when given in frequent and concentrated doses, in farcinomatous diseases, and it is on this account more particularly, that I have been led to publish it. I have so fully entered upon the consideration of the *modus operandi* of the medicine, when thus given, in these cases, and the circumstances which originally led me to employ it, in the paper referred to, that I need not dwell upon them here. I would simply observe, that whether we consider the present as a case of farcinomatous or gangrenous inflammation, it is equally calculated to show the efficacy of the sesquicarbonate of ammonia in either, when given in frequent and concentrated doses."

6. *M. Dewalsche on the expectant treatment of acute Articular Rheumatism in the Military Hospital at Antwerp.**—In the article from which this notice is taken, M. Dewalsche relates several cases of articular rheumatism, for the purpose of showing that the expectant treatment, long pursued by M. Gouzée, the physician-in-chief to this establishment, is much more satisfactory in its results than the treatment by emetics, nitre, bleeding, opium, iodide of potassium, or quinine. The expectant treatment referred to consists in genial and equable heat, pure air, the *liberal* use of a diluent ptisan, hot or cold, according to the fancy of the patient, and in prolonged local tepid baths, once or twice a day (the baths being so arranged that the patient is not disturbed or exposed to cold), with cata-

* Rév. Méd. Chir. de Paris, Aug. 1853.

plasms of one kind or another in the intervals between the baths. The patient is kept in bed some time after the symptoms have subsided, and this time is occupied in giving him a better diet, together with bitter tonics, and particularly quinine, these latter having been found by experience to facilitate convalescence, and diminish the risk of relapse.

The results of this treatment are: 1. That the malady tends to terminate naturally in the first or second week. 2. That the termination is brought about as safely, and as soon, as if active treatment had been employed, if not more safely and more speedily. 3. That the *bruits de souffle* in the heart, frequently heard in the course of the malady disappear spontaneously in the majority of cases, as the disorder progresses towards recovery. 4. That these *bruits* are not always and certainly the signs of endocarditis.

7. *Dr. Oliver on the use of large doses of Opium in cases of Mania and Dementia.**—The following remarkable statements occur in a letter from Dr. Oliver, Physician to the Salop and Montgomery Lunatic Asylum, to Dr. Guy, of King's College, by whom they were forwarded to the Journal from which we copy them. We give the *facts* in full, as their importance demands. Dr. Oliver writes:

I owe you an apology for having so long deferred to answer your inquiry respecting the extent to which I am in the habit of occasionally carrying the administration of opium in certain cases of mania and dementia; and I beg you to believe, that this delay has not arisen from any disinclination on my part to communicate the information you wish for, but simply from my want of time and opportunity to collect such facts as are scattered over the Journal of this Institution, and to place some of them before you in such a form as may best serve to elucidate the practice to which I here refer.

On looking at my reply to an official circular from the Commissioners in Lunacy, containing an inquiry respecting the treatment usually adopted by the superintendents of lunatic asylums in various forms of mental disease, and dated January 14, 1847, I find the following passage:—

"In some instances where the irritability has been excessive, I have found the employment of opium also to be indispensable; and I have sometimes given it in very large doses before it has succeeded in procuring sleep. In one case, where the patient was not previously accustomed to its use, I found that ordinary doses were quite unavailing, and that one scruple of solid opium was no more than barely sufficient for the attainment of comfortable repose. This quantity was given nightly, for a considerable length of time, and was rather abruptly discontinued, without detriment to the patient, after the tendency to pervigilium was supposed to be materially diminished."

I shall furnish you with the details, to a certain extent, of the case here alluded to, as well as with an account of one or two other instances in which opium was thus employed; in order that you may readily comprehend the nature of the circumstances under which a practice so unusual may be beneficially adopted.

It might perhaps be sufficient for me to content myself with the statement of plain practical facts; but I do not feel disposed to lose this opportunity of expressing my views respecting the nature of that pathological condition

* Medical Times and Gazette, July 16, 1853.

which not only admits, but justifies, the adoption of a course apparently so hazardous.

On the 23d of July, 1845, J. B., "a puddler," in the iron-works at Horsehay, Salop, was admitted into this asylum. At that time he was 36 years of age. He had gone from this part of the country some months before, in search of employment, and after various unsuccessful applications, and exposure to much disappointment and privation, he eventually found work at Glasgow. Adversity had not induced him to reform the habit of intemperance, through which he lost his work at home, and his first earnings were soon spent in whiskey. Becoming desperate, he made a resolute but unsuccessful attempt to commit suicide; was then taken to the asylum at Gartnaval, and was subsequently placed there.

At the time of his removal from Scotland he was much depressed in spirits, and averse to any conversation or company; but, beyond this, he did not then manifest any decided aberration of intellect; and after the lapse of a few weeks, having become willing to work out of doors, there was an evident improvement in his physical, as well as in his mental, condition. By the time that he began to inquire about his wife and children, he had grown considerably stouter; and on the 10th of November, 1845, having become able-bodied, active, and cheerful, he was discharged, recovered. He obtained employment at his ordinary business immediately after his discharge, and for about a month he followed his occupation very steadily: at the end of that time he took to drinking again, left his situation soon afterwards, and proceeded "on tramp" into Staffordshire. Living in a most irregular manner, on such casual and scanty earnings as fell in his way, he speedily manifested such symptoms of insanity as rendered it necessary that he should be no longer allowed to go at large, and he was taken into the union workhouse at W——. From that place he was brought here, and was re-admitted on the 11th of April, 1846. The change that had taken place in his condition and appearance during the period of his absence from the asylum, was exceedingly remarkable. In the shrivelled and emaciated figure which he presented on his return, it was not easy to recognise the same individual, whose appearance had been so sleek and comfortable at the time of the departure; and his conduct and deportment, which at the last-mentioned period were decent, orderly, and respectful, had also undergone a thorough change. There existed no wasting local disease to account for his emaciation; but there could be no doubt that the necessities of his system in the way of food had for some time been very imperfectly provided for. The circulating power, as in all such cases, was feeble; the general surface was cool, dry, and shrunken, while the temperature of the head was increased; the appetite was ravenous, and the odour of his excretions was excessively offensive. The most prominent features of his malady were watchfulness and violent delirium. On being placed in a room by himself, a very short time elapsed before he tore his night-dress to ribbons, and it became necessary to remove every article of furniture from the apartment. The coir-stuffing, and the tick of his mattress, soon shared the fate of his clothes; and every moveable thing within his reach was in a state of perpetual commotion. Immediately on his admission (about 8 p.m.), he was ordered a double ration of cold beef and bread, with a pint of strong ale. At 10 o'clock he took a grain and a half of hydrochlorate of morphia, with a glass of warm gin and water.

About 2 o'clock in the morning of the 12th, it was discovered that he had wrenched the skirting-board from the wall, and had broken it into small pieces. The fragments were thrown into an imaginary gulph to feed a shoal of voracious fishes, which were otherwise bent on his destruction. It was

soon ascertained that he was as filthy as he was violent, and it became necessary to watch him very closely, to prevent him swallowing his evacuations. Under the imperfect arrangements of the Institution, which was then unprovided with a regular night-watch, that was not very easily accomplished.

The voracity of his appetite, with the feebleness of his pulse, with other indications of anæmia, left no room for doubt that a regular supply of wholesome food was absolutely indispensable for his relief; and it was equally evident, from the exhausted energies of his nervous system, and the excessive agitation from which he was suffering, that sleep was no less necessary than food. He was at once put upon ample rations of meat, with a liberal allowance of ale in the course of the day, and a glass of spirit and water at bed-time.

At the commencement of his treatment, morphia or some ordinary preparation of opium was given in what is usually considered to be full doses,—such as two grains of hydrochlorate of morphia, or one drachm of tincture of opium; but after the lapse of between two and three weeks, during which, upon one occasion, a sickening dose of potassio-tartrate of antimony was administered, and upon another, three grains of calomel, without in any way tending to the mitigation of his excitement, a more decided course was resolved upon.

On the 28th of April, he took five grains of solid opium, with one grain of calomel at bed-time. In consequence of the inefficiency of this dose, seven grains of opium combined with three grains of calomel were administered in the morning of the 29th, and the same quantity of opium, without the calomel, was given to him at bed-time.

With some vague hope of producing a perspirable condition of the skin, the seven grains of opium were given in the morning of the 30th, as 70 grains of Dover's powder; and in the evening the quantity of opium was increased to ten grains, and combined with twenty grains of camphor.

On the 1st of May, seven grains of opium were taken in the forenoon, and ten grains at bed-time, each of these doses being combined with twenty grains of camphor. On the 2d, twelve grains of opium were administered in the morning, and the same quantity was given at bed-time.

On the 3d, the dose was augmented to fifteen grains in the morning, and this was repeated at bed-time.

In this way he went on until the 10th, when the morning dose was dropped, and sixteen grains were given in the evening. The same quantity was given on the 11th, but only once as on the preceding day.

On the 12th, it was thought advisable to increase the dose still further, and a scruple was administered at bed-time. The same quantity was given at the same hour on the 13th, and again on the 14th. On the 15th, fifteen grains were given in the morning, and this dose was repeated in the evening. On the 16th, 17th, 18th, 19th, and 20th, twenty grains were exhibited each night. On the 21st, ten grains were given in the morning, ten in the afternoon, and twenty at night. On the 22d, he took the same quantity of opium that he took on the 21st; but, as some tendency to constipation was now manifested, it was deemed expedient to give him four grains of calomel along with the night dose, and an ounce of castor oil on the following morning.

On the 23d, he took twenty grains of opium at bed-time, and thus went on, with doses graduated according to the necessity for rest, generally taking a scruple of opium at bed-time until the 14th of June, when the dose was reduced to one drachm and a half of tincture of opium in the shape of a night draught.

On the 28th and 29th of May, it appears that brandy and ammonia had been required,—most probably to relieve the distress produced by the ill-advised exhibition of calomel a few days before.

From a memorandum of the 21st of June, it appears that he had been two nights without his draught, and on that morning was excessively irritable and violent.

Continuing the regular use of opium, in a moderate dose, every night at bed-time, and, for a period of many months, taking it in combination with hydrochloric acid during the day, he went on for a great length of time, without exhibiting any decided improvement of "condition," but still comparatively comfortable, and suffering little from mere watchfulness.

More than two years elapsed before he entirely relinquished his destructive habits, and ceased to keep his mouth filled with pebbles, or with fragments of glass, or any kind of filthy rubbish he could lay his hands on; and, as may be easily supposed, during the whole of the time that he was in this condition, he was so intractable as to be very seldom capable of any thing like regular employment, or of executing a rational purpose of any kind.

The main indications of treatment were still the same as at first:—Plenty of nutritious food, with the use of such means as were calculated to tranquillise the organic irritation which interfered with the process of its conversion into healthy blood, and the subsequent transformation of its plastic elements into the substance of the various tissues,—the necessity, in fact, for nutrition. Exercise and eventual employment, as much as possible in the open air, were chiefly depended upon for this purpose; but the aid of opium was still indispensable for procuring sufficient sleep.

In time the change, of which the progress was so gradual as to have been at first, and for a long period, imperceptible, became evident and decisive. A perpetual and indefatigable propensity to turbulence and mischief at length subsided into a fondness for mere playfulness and fun; the tunic and trowsers of stout sailcloth—for a long time the only practicable means of dress—gave place to garments of less objectionable material and form. His will was not less active than it had been, but its dictates grew more rational as he became able, by degrees, to appreciate the relation between objects and their uses. It no longer seemed to be necessary, that he should tear his clothes to pieces, or destroy whatever else was permitted to fall within his reach, and the propensity here mentioned was finally superseded by a wish for active and useful employment.

Corresponding with the progress of this improvement in his mental condition was the gradual alteration of his physical health. From the returning clearness of his complexion, and from the wrinkling condition of the skin on his previously swollen hands and fingers, it was evident that the cutaneous capillaries had regained a much greater degree of activity than they had manifested for a great length of time before.

The fluctuating progress of his improvement may be traced in the occasional alterations and modifications of the remedies employed. In August, 1847, the administration of nitrate of silver shows that his appetite, even at that time, was depraved; and the exhibition of compound powder of ipecacuanha as an opiate at the same period, points to the still existing inactivity of the transpiration through the skin. Under these circumstances, warm bathing was a matter of course.

In July, 1849, he took decoction of cinchona with hydrochloric acid and opium, and subsequently iodide of potassium, in eight-grain doses three times a day, instead of the acid; but both before and after the above-mentioned periods he was almost constantly taking opium in combination with tonic remedies,

until the 27th of June, 1850,—more than four years after the date of his admission into the asylum,—when the administration of opium was found to be no longer necessary. His bodily health had beeome vigorous; his feelings were tranquil; his perceptible faculties had acquired to a considerable extent their original accuracy; his temper had become mild, his habits industrious, and his conduct and deportment were without a fault. No positive evidence of his derangement remained, so that ever since that time he has seemed to be both sane and rational. This appearance, however, is not borne out by a closer examination of his condition. His acts are rational and consistent; but his foresight is limited to the immediate business of the day. After work hours he is not only capable of taking part in, but of enjoying, a game at bowls or at cards; while his sensibility is blunted, and an originally warm and affectionate regard for his wife and children has been superseded by apathy and comparative indifference. His will appears to be no longer under the influence of passion, emotion, or desire; so that the elasticity of his mental constitution—if I may be permitted to use the phrase—would seem to be lost, and his actions to be now prompted only by a cold sense of what is decent and becoming. His character in this respect is completely changed; and his friends express their wonder at this, more particularly on account of their not being able to detect anything like a corresponding amount of alteration in the state of his intellectual faculties.

I have thought fit to give you this general account of one case, because it was the first in which I was induced to employ this remedy in doses so much larger than usual. I do not wish you to understand, however, that I would again employ opium in reduced doses after the acute symptoms of mania had subsided. Further experience has shown me the great advantage that results from persevering with the remedy in large doses, until the healthy state of the nutritive functions in such cases is completely re-established.

I might adduce evidence of the utility of this practice in a great number of instances, and in some where the quantity of opium administered was even much larger than that which I have mentioned. At the present moment, for instance, I have under my care a man who was admitted into this asylum on the 17th of March ult., and who, without having been previously accustomed to its use, commenced taking opium on the 18th, in a dose of five grains. On the following day he took ten grains , on the 20th, twelve grains; on the 21st, twenty grains; and from the 22d of March until the 2d of May, he took twenty grains every morning and twenty grains every evening without the intermission of a single day. At the last-mentioned period the dose was reduced to ten grains; and, as he is fast regaining both his intellectual and his physical energy, there is every probability that he will soon cease to require it. It might, in fact, be dropped immediately in this instance, without incurring any serious risk of a relapse; but I have always found it to be wiser in such cases to continue the administration of the remedy beyond the period at which it might seem to be safe to leave it off, than to desist from its use too soon.

It would be needless to multiply mere individual examples. The efficacy of opium in doses proportioned to the degree of constitutional depression ought not to be a doubtful thing; and it is only after much experience of the practice here referred to that I have deemed it advisable to make these observations.

It is impossible to dwell among the insane for any great length of time, without having the attention very frequently directed to the fact, that the phenomena of mental alienation are invariably associated with a deviation from the healthy state of the organic functions, and to the almost universal

prevalence of that condition which may, perhaps, not unfitly be described as one of organic debility; and I think it will scarcely be disputed by any person who has had much experience in these maters, that this fact is the true groundwork upon which all arrangements for the treatment of the insane ought to be based.

That there is a necessity for the maintenance and augmentation of the physical health of such patients, is beyond a doubt; and it is equally certain, that the moral regimen, or the provision for inducing mental tranquillity and comfort, tending, as it does, under favorable circumstances, to diminish the waste, and consequent want of organic power, which so prominently characterises almost every form of insanity, is merely a branch of the same sanitary process, and produces its beneficial effects in no other way.

Without wishing to encumber this statement by the admission of any theoretical arguments respecting the physiology of nutrition, I am not unsolicitous, that the practice to which I more particularly refer should be placed upon an intelligible and consistent footing.

* * * * *

In concluding this letter, I must take care to correct any impression which you may have been led to form respecting either the infrequent occurrence of such cases as those to which I have referred, or the expediency of restricting the practice of which I have spoken to the acute forms of mania and dementia.

Besides other individuals who are taking opium in various forms and ordinary quantities, there are, at the present moment, in this asylum, not fewer than eleven patients, who are each regularly taking, on an average, between sixteen and seventeen grains of solid opium every day. With one exception only, the symptoms of the malady in each of these instances are not at present of an acute character. Several of these are cases of intermittent mania, in which I have long known the advantage of employing opium in large doses, not only for the purpose of controlling excitement during the paroxysms, but for improving the tone and energy of the system in the intervals, and in that way diminishing both the frequency and the violence of the acute attack.

I have no desire to lengthen this communication, as I trust I have made it sufficiently evident that the efficacy of opium depends much more upon its adaptation to the condition of the patient than upon any traditional maxim as to the limit of the quantity to be exhibited.

8. *Dr. Marshall Hall and others upon Tracheotomy in Epilepsy.*—Since the notice contained in our last volume (p. 50) five cases of this kind are on record. Two of these have occurred in America, and are reported by Dr. Marshall Hall himself,*—the one by Mr. Neill, surgeon to the Pennsylvania Hospital, the other by Mr. Harrick, surgeon to the Marine Hospital at Chicago; a third is by Dr. Edwards, of Cheltenham;† and the remaining two by Dr. Bucknell,‡ of the Devon County Lunatic Asylum.

These cases, particularly those of Dr. Bucknell, do more credit to the operation than those already reported, but they do not altogether dissipate the doubts we then ventured to express. The fact, that one of them has actually died in the fit, like the patient upon whom Mr. Anderson operated, is sufficient to show that the operation will not

* Lancet, Sept. 10, 1853. † Ibid., May 28, 1853. ‡ Ibid., Aug. 13, 1853.

obviate *all* the dangers even of laryngismus. One thing, however, must be clearly understood, that there are cases of violent convulsive epilepsy without laryngismus. Dr. Hall's original position, that convulsions would be prevented by tracheotomy, cannot be maintained. "By trachcotomy * we cannot avoid the cause or causes, or their first effects, the slighter forms of the affection; but we *can* avoid the severer, the graver, the direr consequences of these causes. We can preserve the patient, as I have stated, not from *falling*, indeed, but from being dashed to the ground violently and convulsively; we can secure him from *convulsion*, and all its dire effects on the mind and on the limbs, and save him from mania, amentia, or paralysis." Dr. Hall, indeed, abandons this position, by insisting, as he does, upon the all-importance of diagnosis. Now, in our own individual experience, there is nothing like laryngismus in—to say the least—very many cases of epilepsy, and Dr. Bucknell's testimony is to the same effect. "It is with much diffidence," says he, "that on this point I venture to express an opinion at variance with that of the distinguished physician to whose genius we owe so much enlightenment on the pathology of these diseases, and who has added the final crown to his work by teaching this application of surgery to the relief of what has so long been the *opprobrium medicorum*. A man, however, who has for many years lived under the same roof, with from fifty to sixty epileptic patients, may be excused for being a little positive respecting the symptomatology of the affection. On such grounds I hold my opinion that, although laryngismus is generally an emphatic symptom, a main cause of cerebral disturbance, and a frequent cause of death in epilepsy, yet that severe cases do not unfrequently occur in which the laryngeal spasm is slight or altogether absent. During the present week I have attended a man who died exhausted after two days spent in recurring fits. The muscles of the limbs and the trunk were strongly convulsed, but there did not exist the slightest indication of laryngeal spasm. During each fit the respiration became slow, apparently owing to spasm of the thoracic muscles. The chest was held open at the extreme point of dilatation during five or six seconds. It was, however, obvious that no impediment existed to the ingress or egress of air through the larynx. Of course, under such circumstances tracheotomy would be useless. It would also be useless in other instances wherein the respiration is to a much greater extent interfered with by spasm of the thoracic muscles and diaphragm. This latter condition may prevent its beneficial application for the relief of tetanic symptoms; for it should be remembered that, although a man may be asphyxiated by ligatures round the abdomen and chest, as certainly as by one round the throat, in the latter predicament only could tracheotomy let in the vital air. Severe epileptic convulsions occasionally confine themselves to the limbs, leaving the larynx and the thoracic muscles unaffected."

Everything, however, does not depend upon diagnosis, for even where laryngismus may be a prominent symptom, it is still a question whether the benefits arising from the operation are likely to counterbalance the disadvantages. If three cases have already died in fit,

* Lancet, May 15, 1852.

are not the protective influences exaggerated? It is no answer to say that these accidents were owing to the tube having become plugged up with mucus, for it is impossible that the tube should always be kept clear. This is a question, however, which must be left to the judgment of each individual practitioner, who must operate or not as that judgment prompts him, *after* he has clearly convinced himself, by the most accurate *diagnosis*, of the existence of laryngismus.

With these remarks we proceed to relate the cases, appending to those which are reported under the sanction of Dr. Marshall Hall some of the comments of that most distinguished physician.

1. Mr. Neill's Case.—John B—, æt. twenty-nine, of five feet eleven inches in height, and weight about one hundred and sixty pounds. His appearance was healthy, and he had no deformity of the throat. His first fit occurred nine years ago, and was not referable to any particular cause by his family. He was not subject to them in childhood, although his brother had died of epilepsy. The frequency of the paroxysms gradually increased, and for the last year he has been unable to attend to any business. His mind has been so affected by the disease that he has frequently mistaken his way home, and often gone into the neighbours' houses for his own. His mother and wife informed me that, during the last six months, he would have an attack at least every other day, but occasionally would have as many as fifteen or twenty during the day. Life had become a burden to him, and he feared to leave his home. His physician tells me that, on the first occasion of his being called to him, he was labouring under most severe congestion of the face and neck, producing great lividity and complete insensibility; and that, in all of the subsequent attacks, difficulty of breathing seemed to be prominent. The patient himself remarked to me that, immediately preceding his attacks, he frequently experienced a sense of constriction about his windpipe; and his friends and family confirmed the idea, that the severity of the attack was proportionate to the difficulty of breathing. When the operation was proposed, and its nature explained to him, he was anxious for its performance, and had great expectations of its relieving him.

The operation was performed on the 11th of March last. He slept but little the first few nights after the operation, and seemed unwilling, at first, to trust himself in a recumbent position; but as the wound healed around the tube he became comfortable, and had nothing like a return of his complaint until the *thirteenth* day after the operation, which tendency to an attack he attributed to his removal of the tube: he had taken a slight cold, which made the tube disagreeable on that day, and he thought he would risk the night without it. The spasm was slight, and he did not lose his consciousness. About *two weeks* after this he was threatened with an attack, of which he was conscious, and mentioned the fact to his mother, who immediately removed a temporary plug which he introduced in the orifice of his tube to prevent a whistling noise accompanying respiratory movements. Upon the removal of the plug the symptoms disappeared, his breathing was comfortable, and he felt much encouraged. He began to appreciate the object of the operation, and fully believed that the means to mitigate the severity of his attacks was the removal of the plug, and that the disease was under his own control. He made arrangements to renew his business, walked about the streets in the confidence and consciousness of a strength of mind and purpose which he had not experienced for a long period.

Unfortunately for him, however, he was again seized, on the evening of the 2d of May, with symptoms of another attack. His physician was sent for,

who removed the tube and cleansed it; after it was replaced the patient felt easier, but was not completely relieved. In the middle of the night he had a most violent attack, and died almost instantaneously. His physician was not with him when he died, and the family would not permit a post-mortem examination of any part of his body but his throat. Dr. Shelmerdine merely examined the cicatrix around the wound and the trachea. The parts had consolidated around the tube, and the trachea was perfectly healthy.

2. Mr. Herrick's Case.—Charles C—, an Irishman, æt. forty years, was admitted into the United States Marine Hospital, Chicago, on January 9, 1853. He was attacked at three o'clock P.M. on that day with severe epileptic convulsions, which continued to recur at intervals of from one to two hours, and to become more severe and protracted under the use of chloroform and the various other means usually resorted to in such cases. At nine P.M. the convulsions kept recurring every twenty or thirty minutes; the face and lips were swollen and livid; the pulse slow and weak; the breathing much obstructed by mucus in the air-passages, slow and stertorous; the veins of the face and neck distended.

The symptoms at this time being such as to justify the conclusion that the patient could not survive an hour unless relieved, the surgeon in attendance determined to make an opening into the trachea, below the glottis, as recommended by Dr. Marshall Hall.

This was accomplished by making an incision through the integuments and the crico-thyroid membrane, into which a silver tube, a quarter of an inch in diameter, was easily introduced, without loss of blood sufficient to require attention.

The operation was followed by a copious discharge of thick, tenacious mucus through the tube, and soon afterwards by a most marked improvement in all the symptoms: the breathing became more natural; the pulse stronger; the countenance less livid.

During the Monday and Tuesday, the 10th and 11th, the two days following the operation, there were in all but four convulsions, and these were much less protracted and severe than any of those previous to its performance.

On the evening of the 11th, the symptoms of pulmonary congestion, caused by the convulsions before the operation, and which had persisted, became suddenly more marked, and finally increased to such an extent as to bring on suffocation and death about four o'clock of that day.

The opinion of the surgeon who had charge of the case is, that the operation stopped entirely the dangerous convulsions, and that if it had been resorted to earlier the patient would have recovered.

"Let me call attention," proceeds Dr. Marshall Hall, "to the beautiful case of Dr. Neill, published above. There was every hope of success which mitigation and improvement could excite; when the epileptic seizure returned, the tube fell out, and death ensued! Let me also adduce the case of Dr. Herrick, of Chicago. The patient was brought into the United States Marine Hospital, affected with violent epileptic fits, recurrent every twenty minutes, with spasmodic laryngismus, each leaving deeper and deeper coma, and stertor or paralytic laryngismus. It was obvious that the patient would speedily die of laryngeal dyspnœa, asphyxia, and apoplexy. It was equally obvious that tracheotomy afforded a chance, and the only chance, for life. Dr. Herrick did not hesitate to perform this operation. The patient was greatly relieved; the tumefaction of the face and neck, the stertorous dyspnœa, subsided; a degree of consciousness returned; there was a

ray of hope that life would be spared; but the bronchial tubes had become filled with mucus, a not unusual effect of epileptic seizures; and though rescued from laryngeal, the patient died of bronchial asphyxia. Who does not feel excited by these details? Who will not join me, and say—Let us cease from futile criticisms, and proceed with our cautious investigations? Dr. Neill and Dr. Herrick both affirm that, under similar circumstances, they would again have recourse to the operation. Who are better judges than those gentlemen who have actually witnessed the good to be derived from the measure in question?

"Unfortunately, the public and the patient are apt to be unreasonable, and, when everything is not accomplished, to be discontented with the *much* that *is* done. Let us explain, before we proceed to the institution of tracheotomy in epilepsy, that it is the removal of the influence and effects of laryngismus, the direst, perhaps, in epilepsy, that we undertake; and that trachelismus and many effects, still dire enough, may yet remain. There may still be the forms of epilepsy which I have designated the *Ep. trachelea* and the *Ep. syncopalis;* and this latter may even prove fatal.

"What, then, shall we conclude from this discussion? First, observation and physiology alike teach us that the effects of laryngismus and dyspnœa are obviated by tracheotomy. Secondly, the propriety of the institution of this operation must depend on a due diagnosis of the laryngeal character of the epileptic seizure. Nothing is empirical in this matter; it is science and careful observation, and not hasty and crude criticism, which will lead to the detection of the truth in this as in all other medical questions.

"Let the profession continue a course of dignified scientific research: let us study the diagnosis, and the physiology and pathology of disease, and endeavour to devise remedies to mitigate or remove it; and let our career be marked by every good feeling and by cautious experiment, remembering that our object is not selfish, and far less malevolent, but the mitigation of human suffering.

"I can truly and faithfully assert, that the more I study that direst of diseases, epilepsy—and I have recently had occasion to do so with many enlightened, experienced, and unprejudiced physicians—the more that disease appears to me to require persevering investigation, and the more I perceive of hope of discovering its true pathology, and the means of its mitigation.

"Tracheotomy is in no case a remedy for a disease. It is only the means of averting a calamity and its effects, and of giving time for remedies. It is so in laryngitis. In Mr. Brunel's case, it enabled the change of position, by which the coin was allowed to fall through the larynx, and which had previously been adopted with danger, to be resumed without peril; and so in every case.

"Now, Sir, first, if in the judgment of the practitioner there be, in a case of epilepsy, danger to life or intellect, however remote, and if this danger result from spasmodic laryngismus, he will not, I imagine, fail to rescue his patient from such danger by so simple a measure as tracheotomy may become; or, second, if there be imminent danger to life from paraplegic laryngismus, with stertor, coma, &c., the effect

of the epileptic seizure, he will still less hesitate to adopt that measure.

"The question is not one for the superficial thinker, but for him who will conscientiously devote himself with benevolence to a momentous inquiry, in which life, mind, and limb may be at stake.

"In conclusion, I observe that—

"1. If the case be one of severe epilepsia laryngea, and tracheotomy be performed, it must at the least assume an abortive and mitigated form; and that—

"2. If it be not epilepsia laryngea, tracheotomy is out of the question.

"3. In the former case it is entirely a question of the severity of the effects of the laryngismus, and of private judgment with the practitioner, as much as that in regard to venesection in cases of inflammation, &c. &c.

"4. Lastly, in epilepsy, tracheotomy is the appropriate and unfailing remedy for laryngismus, spasmodic or paralytic, and its effects; neither more nor less."

3. Dr. Edwards' Case.—The particulars of this case are very scanty. The operation was performed on Sunday night, during a state of coma accompanying or following "a rapid succession of epileptic fits." "The laryngismus was terrific." "The fits, the recurrence of which could have been predicted almost to a minute, immediately ceased." Then in a postscript, written apparently on the Tuesday following, or at most a week later,—"The patient has had no fit, abortive or otherwise, since Saturday evening, seven o'clock; walks abroad and follows his usual employment. In fact, since a properly patent canula has been used and kept clean, up to last date, May 14th, his slight epileptic abortions were gradually yielding, and since gone." It is not stated whether the patient was an habitual epileptic or not.

4. Dr. Bucknell's cases.—Case I. M. G—, a single woman, æt. 22, was admitted into the Devon Asylum on the 21st of April, 1852. The master of the Union Workhouse from which she was brought stated that she was of weak intellect, and for many years had been subject to frequent and severe epileptic fits; that she had formerly lived in the workhouse, but that a year ago she was placed under the charge of a poor man at his own cottage; that this man having beaten her for breaking glass, on the morning of the Sunday previous to her admission, she escaped into the fields in a state of nudity; when recaptured, she was extremely violent; that her conduct was habitually violent, and her habits dirty. No history of her early life could be obtained. On admission, she was in a state of extreme and motiveless rage which is seldom observed except in cases of epileptic mania. Her head and features were well shaped, and did not indicate the existence of idiocy; this observation was confirmed by the considerable selection of epithets and command of language which she was found to possess. The head was over-warm; tongue coated; desire for food good; pulse 104, deficient in fulness; sleep sound. The lower incisor teeth had been removed, probably to prevent the infliction of injury by biting. The catamenial function was found to be torpid, for this electro-galvanism was prescribed, but had to be discontinued in consequence of the extreme restlessness its application produced. The epileptic attacks were heavy and frequent, leaving, however, periods of a week, or two weeks, during which she was free from them. The convulsions of the limbs were not severe, but the respiration was completely interrupted; the face became darkly livid, and the coma was deep and long.

The treatment adopted—namely, moderate aperients, the frequent application of two or three leeches behind the ears, morning shower-baths, &c. appeared to afford some transient relief. In November last, maniacal excitement was extreme; the patient attempted self-destruction, by lacerating the rectum and the vagina with her fingers. She lost a good deal of blood in this and in similar attempts of the same nature. She avowed a suicidal intention. In January of the present year, the fits became more frequent, and the periods during which they had been accustomed to intermit ceased to occur. She generally had four or five severe attacks during the twenty-four hours. Under the influence of these constantly-recurring convulsions, her temper became more vicious than ever. With blind fury she attempted to bite, kick, and strike all around her; and it required all the ingenuity and watchfulness of the attendants to prevent unpleasant results. When capable of answering inquiries, she complained of great pain in the vertex. In the hope of alleviating these symptoms, two grains of nitrate of silver were given daily for three months, without however, producing any appreciable change. In the severity and frequency of the fits, and the gravity of the maniacal excitement which accompanied them, this case equalled, if it did not surpass, any similar ones which has been treated in this institution. Matters continuing, if possible, to get worse, it was determined to give the patient the chance of relief afforded by tracheotomy.

The operation was performed on the 2d of May last. The patient was put under the influence of chloroform. The opening into the trachea was made below the isthmus of the thyroid body, which was hypertrophied; the trachea lay at a great distance from the surface, in consequence of an hypertrophied condition of the sterno-mastoid muscles—a condition which I have frequently observed in those long subject to epilepsy. The incisions were made in a vertical direction. On recovering from the influence of the chloroform, the patient became so violent, that it was found to be impossible to retain the canula in the wound. After many ineffectual attempts to do so, and anxious not to lose the benefit of the operation on this account, I removed a semicircular portion of the trachea on each side of the incision, with the intention of establishing a fistulous communication without the aid of a canula. In the night she had a severe fit, the wound being plugged up with lint to prevent oozing. On the 6th she had two slight fits, not becoming as usual black in the face or frothing at the mouth during recovery. Since her admission *she has not had a slight fit before.* On the 7th and 8th, she had three severe fits, the opening into the trachea having become obstructed with exudation. It was cleaned, and soon afterwards she had a slight fit. From this time up to the present date, great difficulty has been experienced in keeping the fistulous communication open. The size of the sterno-mastoid muscles and of the thyroid body make the fistula a long one. The incisions having been made parallel to the muscular fibres, and across the skin folds, the tendency to close has been great. This tendency, after the failure of milder measures, has only been obviated by the use of potassa fusa. This escharotic has been used three times. During the time that the fistula has been closed by the slough thus produced, the patient has had two severe fits; after the fistula has become open again, the fits have been slight. Since the operation has been performed, the temper and conduct of the patient has undergone a great and remarkable change for the better. She is at times sullen, and at other times perverse; but her behaviour resembles the haughtiness of a self-willed child, rather than the extreme fury of epileptic mania, which had for so long a time been its characteristic. Her general health has improved. Up to the present time I think it a moderate and impartial

estimate to say, that since the operation, her fits have declined 50 per cent. in frequency, and 75 per cent. in severity.

Case II. C. C—, a single woman æt. 35, was admitted into the Devon Asylum, February 2d, 1848. Had been subjected to epileptic attacks for seven years at least; had been a domestic servant until three years ago, when she was compelled to relinquish the occupation on account of the increasing strength and frequency of the fits. At first the fits were isolated and rarely occurred during the day time, but of late years they have become numerous. During the latter time her character has become much changed, more especially during the epileptic period, which is frequently contemporaneous with the catamenial flow. She is generally slow, heavy, and fond of bed; at other times she is violent and unmanageable, screaming, striking, refusing food, and threatening to destroy herself. The cause of disease is unknown. No other members of the family are epileptic or subject to nervous disorders. On admission, the skin was dry; head hot; bowels confined; pulse quick and of good strength; functions of uterus regular; sleep disturbed; tongue broad, pale, and has been severely bitten. Her intellects were found to be dull, and in reading she frequently miscalled words; formerly she could read well: she was good-tempered and quiet, cleanly in her habits, and willing to be employed. The various entries in the case-book, from the date of her admission to the spring of 1851, show, that in the intervals of the epileptic periods she was quiet, obliging, and industriously employed in the laundry or wards. The fits did not come on periodically, although a number of them occurred about the same time. Before they came on she was heavy and stupid for a few days; they were accompanied sometimes by maniacal excitement, sometimes by tendency to suicide, sometimes by dread of death. No aura or warning occurred before them, and, contrary to the common rule, when a fall took place it was always a backward one, and the blow was received on the occiput. By wearing a bonnet with padding in the crown the force of such blows was greatly diminished. The character of the fits was severe. The convulsive movements were not general, but the respiratory were entirely suspended. The face became very livid, and when the spasm relaxed froth accumulated round the mouth. Medical treatment appeared to mitigate the attacks, but the amelioration was not permanent, and, on the whole, the condition of the patient slowly but gradually deteriorated. In March, 1851, the patient was one of seven on whom sumbul was tried. During the month she was taking it she had nineteen fits; in the following month, when this medicine was omitted, she had only twelve. On the 20th of June, the operation of tracheotomy was performed. Chloroform produced so much irregularity in the respiratory movements, that it was deemed advisable to allow its effects to pass off before the operation was proceeded with. The incisions were made transversely, and a large canula was placed in the trachea, just below the cricoid cartilage. Subsequently to the operation the patient has had seven fits; their character is entirely changed; there is not the slightest lividity of the face or frothing at the mouth. Each fit is recognised by a convulsive movement of the eyes, and by slight twitchings of the arms and facial muscles. The state of unconsciousness continues about half a minute, leaving behind a very moderate degree of stupor, which passes off in half an hour. In language current to the wards "the fits flutter off." She is not only tranquil, but is cheerful and thankful for her improvement. The canula is kept in its place without difficulty, and the opening is free enough to permit the whole of the respired air being passed through it at the will of the patients.

9. *Dr. Turnbull on Sugar of Milk as an article of food in Consumption and other Pulmonary Diseases.**—Those who are familiar with Liebig's works are aware that he established, several years ago, the fact that all the various substances used as food belong to one of two classes—the azotised or plastic, which form the tissues of the body and replace the worn-out fabrics; and the non-azotised, or combustive, which furnish food for the lungs, and support respiration and animal heat. Now, it is a curious fact, which he also established, that though the fibrin, albumen, and casein, which constitute the chief of the first or azotised class of alimentary substances, exist in vegetable as well as animal food, animals have not the power of forming in their own bodies any of those azotised alimentary principles. They are primarily derived from the vegetable kingdom; and the digestive organs of animals have no power of producing them, but merely of assimilating what has been already formed by plants, or previously drawn from the vegetable kingdom by some other animal. These views met with considerable opposition when they were first advanced; but their correctness is now generally admitted, and there is no essential difference in the chemical composition of fibrin procured from vegetables and that obtained from the flesh or the blood of an animal, or between vegetable and animal albumen or casein.

Of the other class of alimentary substances—the non-azotised—the chief use of which is to supply food for respiration and the support of animal heat, the principal are starch, sugar, oil or fat, and alcoholic liquors. These unite with the oxygen absorbed at the lungs, and are the chief source of the carbonic acid and watery vapour given off by these organs. They are, in fact, burnt by a process of slow combustion, which is the great source of the high temperature of animals.

"It appeared to me," writes Dr. Turnbull, "that, as this function of the lungs must necessarily be more or less impeded in all pulmonary diseases, and as cod-liver oil had been found so beneficial in that particular disease, consumption, advantage would be gained by selecting from this, the non-azotised or combustive class of alimentary substances, such of them as would have the greatest tendency to unite readily with the oxygen absorbed at the lungs; and thus, in the disabled condition of these organs, to facilitate the performance of their functions.

"I was thus led to inquire which of the non-azotised or combustive class of alimentary articles are most readily digested, and have the greatest affinity for oxygen. Sugar of milk is an article belonging to this class of aliments, which possesses these properties in a high degree, and is deserving of more attention than it has yet received as an article of food. I shall therefore state a few facts respecting it, which seem to me sufficiently interesting to be worthy of being brought under the notice of the profession.

"There are three principal varieties of sugar—cane sugar, milk sugar, and grape sugar. They are closely allied in composition, though they differ considerably in chemical properties. All kinds of milk contain sugar of milk; but it is worthy of notice that asses' milk,

* Association Medical Journal, June 24, 1853.

which has always had a greater reputation than any other kind, as an article of food in consumption and other pulmonary diseases, contains the largest proportion, relative to the caseous and oleaginous principles, of any kind of milk. Whey, which consists almost entirely of sugar of milk, has also been found a useful article of diet in consumptive cases.

"When we inquire into the chemical properties of milk sugar, we also find that it has so strong an attraction for oxygen, that, when dissolved with an alkali, it has the power of reducing more or less completely some of the metallic oxides. It is readily absorbed into the blood, which, being an alkaline fluid containing oxide of iron, furnishes the necessary conditions for its oxygenation. Besides this, its composition is such, that it must be readily converted into carbonic acid and water. There is only one other point in relation to its fitness to supply material for respiration, which I shall at present notice. It is the fact, originally pointed out by Liebig, and now admitted by physiologists, that one of the great offices of the liver is the preparation of combustive material for the respiratory process. This is a point which has not been sufficiently kept in view by medical men; but it is one of great practical interest, when we consider that the function of the lungs and that of the liver are so intimately connected and mutually dependent, that derangement of the secreting function of the latter must necessarily interfere with the former, and may not improbably be one of the chief causes of a tubercular state of the blood. The liver prepares the combustive materials for respiration; and of this there are two sources, one being the worn-out tissues of the body, the hydro-carbonaceous part of which forms bile, and, being reabsorbed, is consumed at the lungs; the other is the saccharine and fatty matters of the food, which are consumed in a similar way. It would seem, however, that the liver has not only the power of preparing the latter, but also of forming saccharine at least, if not oleaginous matters, from the blood. A defect in this power may be one of the great causes of tubercular diseases; and if we can, by giving a ready formed oil which is stored up at certain times in the liver of the cod-fish, rectify to a great extent any defect in its action, so far at least as the oleaginous material for respiration is concerned, there is good reason to expect that still more may be gained by giving, in a ready formed state, the other combustive material, the saccharine.

"The facts I have brought forward have led me to use sugar of milk in the treatment of consumption; and, as I have seen benefit from its use, I wish to recommend it as an article of food deserving of more attention in the treatment of this disease than it has yet received. I believe also that they embrace an important principle, applicable to the dietetic treatment of other diseases."

10. *MM. Wolf and Debourge on the treatment of Stricture of the Œsophagus by Catheterism.**—The two subjoined cases are of extreme interest, though not quite as explicit as might have been desired.

* (1) Annalen des Charite-Krankenhauser, Berlin, 1852; and (2) Journ. de Méd. de Bruxelles, Jan. 1853.

The second, however, will serve to supply in some degree the deficiencies of the first.

1. M. Wolf's Case.—This was that of a young man, æt. 26, who a year previously had accidentally swallowed some oil of vitriol. Great inflammation had followed, and contraction of the œsophagus, and this latter condition had gone on increasing, until, on admission into the Charite-Krankenhauser, he had altogether lost the power of swallowing. By means of a bougie a stricture was detected at the lower third of the œsophagus. The health had not suffered to any great degree. The treatment adopted was to introduce a fine bougie twice a day, and to allow it to remain every day for a longer time. Every six days a larger bougie was employed. Proceeding in this way, a great change for the better had taken place in six weeks. But the patient, who had learned to introduce the bougies himself, and wishing to progress too rapidly, brought on an attack of inflammation in the gullet, which obliged him to discontinue the treatment for some weeks. After this he returned to it, and with such good results, that at the end of four months and a half he was discharged from the hospital perfectly cured.

2. M. Debourge's Case.—A lady, 46 years of age, and goitrous from her birth, began to suffer from dysphagia, and the affection increased progressively until she was altogether unable to swallow. Anæmiated and anasarcous, she was reduced to the last degree of debility, when M. Debourge resolved to try the effect of catheterism. A small, well-oiled gum-elastic catheter was passed easily to within a short distance from the cardiac orifice of the stomach. A large quantity of viscid mucus was ejected upon the withdrawal of this instrument, as indeed was the case upon any attempt to swallow. A larger catheter was then tried, and it was passed so far as to allow the injection of some nutrient fluid into the stomach. The next day the catheterism and injection were repeated. The day following a probang was introduced, the sponge of which was moistened with white of egg, and this was passed beyond the obstruction, and then brought backwards and forwards several times through the strictured portion. After this the patient was able to swallow some broth; but the difficulty soon returned. The day following the sound and the probang were introduced twice; and so the next day, and the day following. After this the same treatment was continued, with progressively larger instruments and at longer intervals; and at the end of three months the patient had so far recovered as to be able to walk a considerable distance to M. Debourge's house, in order to have the probang passed. Subsequently, the operation was continued, at intervals of a week, for two months longer, when the cure was completed. This was four years ago, and the patient is still well.

11. *M. Passot on the employment of Ergot of Rye in certain kinds of Retention of Urine.**—Ergot of rye has not only the property of exciting contractions in cases of inactivity of the uterus, but is also very efficacious in the retention of urine which is caused by atony and paralysis of the bladder. MM. Baudin and Payan of Aix, were the first who endeavoured to demonstrate that this agent does not act on the uterus alone, but rather on the lower part of the spinal cord. They also speak very highly of it as well in the affection which we have now under consideration, as in weakness or paralysis of the lower extremities.

* Gaz. Méd. de Lyons; and Rév. Méd. Chir. de Paris, April, 1853.

Drs. Kinsley, Canuto-Canuti, Sainmont de Rocroy, Allier of Marcigny, have also recorded cases which bear favorable testimony to the utility of ergot in paralysis of the bladder.

Captain B., æt. 60, suffering from dysuria, which had increased greatly during the last three months, until it suddenly changed to a complete retention, which necessitated the employment of the catheter several times a day. For two months a host of remedies were used without avail; there was not the slightest improvement. The prostate became enlarged, and the patient suffered much from the use of the catheter, which had to be passed twice every day.

Fifty centigrammes (about eight grains) of ergot of rye, infused in a cupful of boiling water, was administered three times a day. At the expiration of six hours, the patient passed a small quantity of urine, and required the use of the catheter only once in the day. Afterwards it was only passed once in the forty-eight hours, and after ten days the bladder was left to itself.*

A lady, aged about 75, was affected with paralysis of the bladder, which for a long time required the use of the catheter. Ergot was prescribed in doses of fifteen decigrammes (about twenty-eight grains) in infusion. On the sixth day of this treatment, it was no longer necessary to pass the instrument, the patient being able to pass water spontaneously.†

A man, named Roussean, æt. 58, of a nervous temperament, in consequence of a fit of passion, had complete inability to urinate. The bladder was obliged to be emptied by the catheter. The inertia of this organ continued in spite of cold injections into it, cold enemata, the application of ice, also a blister to the hypogastrium.

Strychnine applied, by means of ointment, as a dressing to the blister, also by frictions in the axillæ, on the following day produced cramps in the legs and arms, and was presently accompanied by stiffness, so that it became necessary to discontinue the use of this remedy. There was not the slightest action on the bladder. It was at this stage that the author conceived the idea of giving ergot of rye. He prescribed six grammes (about ninety-two grains), coarsely powdered, to be put into a litre (about thirty-four ounces) of water, macerate for two days, filtered, and injected cold into the bladder. Seven minutes afterwards the patient experienced a desire to urinate, which, however, he could not then satisfy. The next morning the injection was again administered. Eight minutes after he had vesical tenesmus, and then spontaneous emission of urine. The injections were continued for some days. The cure was complete.‡

In 1848, Dr. Allier of Marcigny, sent a letter to the National Academy of Medicine, in which he gives as the result of his observations, that in only one out of fourteen cases ergot proved of no use.

The author is also in possession of some cases which prove, or seem to prove that ergot is capable of restoring the contractility of the bladder. The following is the most remarkable:—In the month of July, 1846, he was consulted by M. H., æt. 60, of a dry constitution and a very well-marked nervous temperament. The patient had indulged both in venereal excesses, and in the excesses of the table, and it is to these that he refers the vesical paralysis from which he is now suffering, and which requires the catheter twice a

* Kinsey's Journal des Comm. Med.-Chir., March, 1844.

† Canuto-Canuti, Bull. des Sciences Méd. de Bologne, 1845.

‡ Sainmont, Gazette des Hôpitaux, 1848.

day: otherwise there is no symptom of organic alteration, no fever, no enlarged prostate. The canal of the urethra is free, through its entire length, and the urine when drawn off is perfectly clear. After having experienced the uselessness of tincture of cantharides and of blistering the hypogastrium, he used the following prescription:

Freshly powdered ergot . . . . 2 grammes (30 grains),
Mucilage . . . . . 120 „ (31 ounces).
A tablespoonful every half hour.

Ergot of rye, powdered . . . . 15 decigrammes (23 grains),
Cocoa butter . . . . . a sufficiency.
To be made into two suppositories; one of them to be introduced night and morning.

On the same day, at the expiration of some hours, he felt a desire to micturate. At my evening visit, a bath was ordered. The patient was scarcely in it before micturition took place spontaneously and with force. From this time to his death, he has always passed water freely and without the assistance of the instrument. The author adds, that to make certain of the cure, he continued the remedy for three or four days, but in a decreasing dose. The patient died the 30th January, 1848, of an acute pleuro-pneumonia, during the course of which not a single morbid symptom appeared in the bladder. Dr. Passot then proceeds to say, it is therefore certain that ergot cures retention of urine which depends on pure and simple atony or paralysis of the bladder; but with regard to paralysis consecutive to apoplexy, or depending on other affections of the nervous centres, it is well known that they are unaffected by this kind of treatment.

12. *Dr. Jenner on the treatment of Ringworm by the local application of Sulphurous Acid.**—The subjoined case is one of two which formed the subject of a clinical lecture by Dr. Jenner. The therapeutical use of this agent was originally suggested by Professor Graham, as a possible remedy for cholera, at a time when that disease was said to have its origin in the presence of an entophyte in the intestinal canal. It was first employed by Dr. Jenner to check fermentation, and to destroy the torulæ cerevisiæ and sarcina goodsirii.

The case exhibiting the beneficial influence of this acid in ringworm, is that of a Jew pedlar, æt. 27 years, who had been affected with this disease for nine years, and who had been variously treated in several hospitals without any benefit. He had been badly fed and lodged, and his habits were sordid, but his general health was pretty good. He was admitted into University College Hospital on March 21st, 1853.

The whole of the scalp (proceeds Dr. Jenner), excepting the margin, was covered with the crusts of tinea favosa. The largest crusts were of a greyish yellow colour, of the consistence of dried putty or mortar, and brittle. Their thickness generally was considerable. Where thickest, the surface of the crust was below the level of the cutis; so that it looked, at the first glance, as if the latter had been partially destroyed by ulceration. The surface of these crusts was very irregular; it had a pitted, worm eaten, or eroded appear-

* Medical Times and Gazette, Aug. 20, 1853.

ance. At the edge of the large, irregularly-shaped crusts, were many small circular crusts, depressed in the centre. A hair passed through the centre of each of these small crusts. When the crusts were forcibly detached from the scalp by mechanical means, the exposed surface of the cutis was very red and raw.

The head itched much; and, though scratching gave considerable pain, it was evident, from the traces of blood on the surface, that he had been applying his nails to the part.

The odour of the head was very offensive, something like that emitted by mice, only sweeter and more nauseous. Scattered over the trunk and extremities were a very large number of circular favus crusts. There were as many as forty on the back alone. The smallest of these appeared, when seen through a lens, to be constituted thus: in the centre was a hair, around and touching that a brownish-yellow crust, and around that again a dusky-red halo; the diameter of the whole not exceeding two thirds of a line. On the back no crust was more than one fourth of an inch in diameter; on the leg there was one one-third of an inch in diameter. These crusts were circular, raised about a line above the level of the cutis, hard, dry, and appeared as though made up of concentric rings of pale, greyish-yellow, and brown colours alternating. The surface of these crusts was readily detached, and then a cup-shaped cavity was exposed, filled with a brimstone-yellow powder. The base of the crust being removed, the surface of the cutis, from which it had been detached, was raw.

I saw the mycelium, sporule bearing branches, and sporules of the achorion Schönleinii, when portions of the crusts, or of the yellow powder, were placed under the microscope.

No treatment was adopted for some time after the man's admission. On April 13th, his state was exactly the same as when he entered the hospital. Rags, wet with a solution of sulphurous acid, were now ordered to be kept constantly on the scalp; the head to be covered with an oil-silk cap.

On April 18th, large quantities of the crust had separated from the scalp, and *those that remained attached had entirely lost their yellow hue; they were now of a dirty-brown colour.* All itching of the scalp ceased shortly after the application of the sulphurous acid. No sulphurous acid had been applied to the crusts on the trunk and extremities, and they had still the characters they presented on the man's admission into the hospital.

A piece of lint, wet with sulphurous acid lotion, was applied to one of the largest crusts on the leg.

On the 22d April a mere trace of the favus crust remained on the scalp; but the surface of the cutis was red, and there was an inflamed papula near the vertex. Thinking this condition might be partly due to the acid, which was a very strong solution, I ordered its use to be discontinued for twenty-four hours. The crust on the leg to which the sulphurous acid was applied on the 19th, had separated; the exposed surface was red, but not raw. *Two favus crusts which were seated in the vicinity of that to which the acid was applied on the 19th, were observed to be turning brown; subsequently they dropped off spontaneously.* The effect of the sulphurous acid gas on these two patches is of great interest, as illustrating the mode of action of the solution. The crusts on the scalp turned brown shortly after the acid was applied to them, and before they separated from the cutis.

On the 29th April the lotion was discontinued, and zinc ointment applied to the scalp.

On May 2d the head was free from crusts, but the scalp was still red, and several inflamed papula were seated on it.

On May 9th the skin of the scalp was here and there more natural in hue, and one or two papulæ had suppurated; the pus was healthy in appearance, and there was no trace of the parasitic plant to be detected by the microscope.

On the 18th, the head continued free from favus; the scalp was much less red; the hair was growing. As the crusts on the trunk and extremities were still in the same state as on the patient's admission into the hospital, he was immersed, about nine in the evening, for half an hour, in a full-sized tepid bath, containing sixteen ounces of saturated solution of sulphurous acid; no friction was employed. During the night all the crusts save three fell from the surface.

On the 20th he was again immersed in the acid bath, and the next day no trace of a crust was to be found on the trunk or extremities. My notes say: —"No fresh crusts on head.; a small pustule occasionally appears, and dries up in two or three days, and then disappears entirely; the skin of the head generally is much paler and more healthy in aspect."

31st.—The scalp was still paler than at the previous report. There were only two small pustules on the scalp. By the microscope, no trace of the parasite could be detected. The skin generally appeared healthy; and, on June 2d, Jacob left the hospital, at his own desire, to return to Holland.

I cannot conclude without expressing my confident belief that a very great advance was made in pathology when the vegetable nature of the diseases I have referred to as well as of some others, was demonstrated; and my equally confident belief, that the foundation for a very great advance in therapeutics was laid when Professor Graham introduced to notice the power of sulphurous acid to destroy vegetable life, and explained how it could be given internally without injury to the patient.

Note.—The solution of sulphurous acid I have used is made by passing a stream of the gas through water till the latter is saturated. Of this saturated solution, two ounces may be added to six ounces of water, to make the lotion.

The saturated solution of sulphurous acid I have employed, was prepared in the Birkbeck Laboratory or University College.

II.

REPORT ON THE PROGRESS OF SURGERY.

1. *Mr. T. Spencer Wells on treatment of Ulcers by Galvanism.**—The following very interesting and important remarks and cases are from the Official Journal kept by Mr. Wells, while Surgeon to H.M.S. Modeste in the year 1852. The author writes:

"Since the year 1847, I have had repeated opportunities of observing the therapeutical influence of a single galvanic current upon ulcers and granulating surfaces. In this ship several cases have occurred, in which this influence has been most remarkably beneficial. I have, therefore, drawn up, in the form of a series of propositions, the results of the whole of my experience.

"The apparatus I have used has been of two kinds. The first is a single pair of plates,—namely, an oval plate of zinc from one to three inches in the long diameter, and a plate of pure silver of the same size and form, the two being connected by a silver wire soldered to the back of each plate. The second I have only used for about a year. It is Pulvermacher's electric chain, which I have used in six and eighteen elements. I shall first state the result of my experience with a single pair of plates, subsequently remarking upon the comparative influence of Pulvermacher's chain.

"1. To secure the effects of the apparatus, it is necessary that the surfaces of the two metallic plates be perfectly smooth and clean, and that they should be applied to the body without intervention of any substance whatever. At first I believed that it was necessary to denude the cuticle; and accordingly, when I required to act upon an exposed surface, I applied one plate upon it, and made a small puncture in some neighbouring part, upon which the other plate was applied. I soon found that this was unnecessary, and that it was only necessary to moisten the cuticle to ensure the passage of the current. When moistened by vinegar, or an acid solution, the effects were quite as rapid as after denudation of the cuticle.

"2. If two slight excoriations, two ulcers or suppurating surfaces, upon a limb or any part of the body, be acted on by the pair of plates, the zinc being applied upon one, the silver on the other, the surface beneath the silver rapidly cicatrises, while that beneath the zinc is in two days converted into a superficial eschar. If the plates be still kept applied, the eschar extends to the subcutaneous cellular tissue, and presents all the characters of a slough produced by caustic potash, except that the dead tissues are a little less compact. After the separation

* Medical Times and Gazette, July 23, 1853.

of these sloughs, cicatrisation under ordinary applications is very tardy, but is much hastened by the application of the silver plate, the zinc being fixed on some neighbouring part. So long as the zinc plate remains upon an exposed surface, a copious exudation of fetid serum goes on from it, and a dark, soft, spongy slough is produced, which does not clear away for two or three days after the zinc is removed. After the separation of the slough, an excavation is left, and the granulations are healthy. They reach the surface level much more quickly when the silver plate of the apparatus is employed, than under any other treatment. That this good effect is not due to mere pressure of the metallic plate, I have become convinced, after comparative trials of the applications of the silver, with and without connexion with zinc. I have made numerous trials of the methods of Baynton and Scott, of water and dry dressings, of elastic bandages, and various other accepted modes of treating ulcers, and have found no means so capable of uniformly producing a rapid growth of healthy granulation as galvanism.

"3. I have often been astonished at the change effected in twenty-four hours in the condition of ulcers. At one dressing theh are seen to be deep, cup-like excavations. At the next the granulations have nearly reached the surface. On the third day the surface level of the skin and granulations is often uniform, the well known marginal blue rim announcing the commencement of cicatrisation. When this point has been attained, it is better not to apply the apparatus again, but to apply simple water-dressings, or, if there be any tendency to flabbiness in the granulations, dry lint, and a strap of adhesive plaster. When I was Assistant-Surgeon in H. M. S. Hibernia, a form of contagious circular sloughing ulcer was very prevalent. We used to destroy the diseased surface by undiluted nitric acid, and apply the galvanic apparatus as soon as the slough separated. The men were often allowed to walk about, and suffered no more impediment from the apparatus than from a simple bandage. Much trouble was spared in dressing, as the apparatus was only removed once in twenty-four hours. In that very obstinate form of ulcer, naval surgeons are so frequently called upon to treat, called by the men "a burn with a rope," in which coils of rope, twisted round a limb, destroy a ring of integument, fascia, and perhaps muscle, the slowness of the natural process of repair under any variety of ordinary treatment is quite peculiar. I treated a case of this kind when surgeon of H. M. S. Trafalgar. The integuments, fascia, and some portions of muscle, were destroyed all round the calf of the leg; the tibia and fibula being laid bare. The slough separated, and an annular ulcer remained nearly two inches in breadth. The man was a long time on the sick list before I applied the galvanic apparatus. Scarcely any signs of a reparative process had appeared when I applied the silver plate of the apparatus to a portion of the ring; and it was quite extraordinary to trace the daily effects as the plate was moved around the large ulcerated surface; the spots where the silver had been applied for only twenty-four hours being far above the level of other parts, and consisting of small conical granulations, in place of the flat, flabby surface which had formerly existed. Cicatrisation afterwards took place as readily as in ordinary cases.

"4. When the zinc plate is applied upon the superior portion of a very large ulcer, this portion alone improves in appearance, while the inferior portion degenerates; but if the plate be applied upon the lower portion only, the whole surface of the ulcer improves equally.

"5. In cases where several ulcers exist upon a limb, and the zinc is applied to a superior, the silver to an inferior one, all the ulcers situated in a direct line between the two plates improve in appearance, become healthy sores, and cicatrise, while those on either side of the current remain unaltered, and sometimes degenerate.

"6. When the silver plate is applied upon the extremity of a fistulous sore the effect does not extend beyond the edges; but if a projecting portion of the silver be carried to the bottom of the fistula, granulation rapidly follows. It is very easy to perforate the silver plate by a screw, the point of which is smooth, and adapted in size and shape to that of the fistula. I found this plan answer admirably in a case of perineal fistula, which persisted long after perfect dilatation of a stricture of the membranous portion of the urethra. In cases of open bubo, with burrowing sinuses, I have introduced a small silver chain to the bottom of the cavity, and connected it, either with the plate of the single pair or with the copper end of Pulvermacher's chain. The result has been invariably satisfactory. I saw a case in H. M. S. Scourge, of a man who had been eight months on the sick-list from a bubo in this state, yet he was well after the chain had been used for one week only, in the manner I have described, by my friend Dr. Davidson, surgeon to the ship.

"7. In several cases, normal innovation has been restored in paralysed parts under the use of this apparatus, the zinc being placed superiorly, and the silver inferiorly, so as to include, as nearly as possible, the whole of the paralysed part. Disordered function of particular nerves has been also remedied, by so placing the two plates that the nerve lies between them.

"8. Whether the single pair of plates, or Pulvermacher's hydro-electric chain be used, a much better imitation of the natural currents of vital electricity is afforded than by the batteries in common use. The action of the latter is powerful, and only susceptible of temporary application, while that of the former is mild, uniform, and continuous, an electric current circulating continually in the same direction from one plate, or one end of the chain to the other, through any part of the body which is between the two poles. The single pair of plates never causes any pain or uneasiness to the patient, never producing more than slight itching or numbness, while in many cases where the action is very evident, no sensation whatever is felt. When Pulvermacher's chains are used, the sensations vary with the length of the chain, and the strength of the acid in which it is soaked before application. That I have most commonly used has been only eight links, and soaked in distilled vinegar. Itching or tingling sensations are felt for an hour or two, and are renewed as often as the chain is soaked in the vinegar, but nothing approaching to pain is complained of. With a chain of twenty-four links, soaked in the same acid, the tingling sensation is sometimes so acute, as to be troublesome, but still not painful. With regard to the relative advantages of the chains, or the single

pair of plates, my present experience would lead me to prefer the plates in ordinary cases of ulcer, where they could be applied without producing painful or injurious pressure. I have found, that even where a chain of eight links was only moistened with water, the current has been too strong, and made an ulcer irritable. On the other hand, the chains have great advantages over the plates when ulcers are situated over bones, or too sensitive to bear metallic pressure. They are also to be preferred in cases of indolent ulcers in weak persons, as, in such cases, the current of the single pair of plates is too feeble to excite any very speedy influence."

Mr. Spencer Wills then proceeds to relate several cases, of which the two following will serve as examples.

Case 1.—J. B—, æt. 18, grazed the right shin by a fall. Three superficial ulcers followed, and he was put on the list on the 15th of October. Water dressing was used until the 20th, but no change for the better took place. Pulvermacher's small chain, excited by vinegar, was applied on the 20th, kept constantly fixed, and only removed to be soaked again in the vinegar in the evening. On the following day, the ulcers were so nearly cicatrised, that it was not thought necessary to reapply the chain. Water-dressing was used and the sores again degenerated. On the 3d of November, the chain was applied again near the sore, but, from the slipping of the upper end, in such a way that the current did not pass through it. On the following day, no change had taken place, but the chain was reapplied, so that the current should pass through the sore. On the 5th, it was very nearly healed. Chain kept applied. On the 6th, cicatrisation was perfect, and he was discharged to duty on the 7th.

Case 2.—C. H—, æt. 17, received a wound below the left external malleolus, which was followed by an indolent ulcer. He was put on the list on October 15th, and treated in various ways until the 26th without any benefit, when the single pair of plates was applied. On the evening of the 27th, no change having taken place, Pulvermacher's chain was applied. On the 28th half the ulcer was quite filled up and cicatrised, and the other half nearly so. On the 29th, the chain having been constantly applied, cuticle had formed in the centre of the ulcer at the exact spot where the metal had been in contact. In order to determine if this were accidental, or owing to the galvanic current, the chain was discontinued, and simple dressing applied. The boy got his feet wet with salt-water, and the sore again assumed an indolent, unhealthy appearance. On the 16th of November, the chain was applied, but wetted with water only. On the 17th not much effect had been produced, but the surface appeared more healthy. Continue.

18th.—Slight improvement. Wet the chain with acid.

19th.—Cicatrisation nearly complete. Continue.

20th.—Cicatrix quite perfect. He returned to duty on the 22d.

2. *Dr. T. K. Chambers on the greater Liability of Females to Malignant Disease.**—From facts collected in Dr. Chambers's "Decennium Pathologicum," it appears, "1st. That females are, to a certain extent, more disposed than males to malignant disease, originating even in parts of the body common to both sexes, being affected in the proportion of nearly 7 to 5.

"2d. That the female organs, provided for the continuation of the

* Medico-Chirurgical Review, July, 1853.

species, are in that sex more prone to the disease than any other locality, and in one fifth of the fatal female cases, are the cause of death, without other organs being affected at all.

"3d. The whole risk of women being affected with malignant disease is to that of men as 13 to 5."

3. *Dr. Brainard on the treatment of Vascular Tumours with a Solution of Lactate of Iron.**—In a communication to the 'Lancet,' Dr. Brainard, Professor of Surgery in the Rush Medical College, Chicago, Illinois, relates a case in which he cured an erectile tumour by the infiltration of a solution of lactate of iron. Experimenting with this solution previously, he had discovered that when it was injected into a vessel it produced thickening of the coats and obliteration of the channel. Dr. Brainard may be said to have half-anticipated M. Pravaz, though it does not appear to have occurred to him to apply the injection of this solution to the treatment of aneurism. It is a question whether, in some respects, the lactate of iron may not be preferable to the perchloride, and for this reason the following case, and the remarks appended to it, are of considerable interest.

Case.—The patient, whose age was 34, had a large erectile tumour of the left orbit, for which the carotid of the same side was tied on the 11th of November, 1851. In the course of the next year the tumour returned to its original size, when it was treated by puncture with hot needles. This operation was repeated twice, without much benefit. Under these circumstances the treatment by injection was resolved upon, and carried into effect on the 14th of December, 1852. The solution was of the strength of 8 grains of the lactate of iron to 1 drachm of distilled water, the whole being well filtered. Dr. Brainard proceeds: I punctured the tumour at its most prominent part with the infiltrating canula, carrying it to the depth of about an inch; on withdrawing the stylet arterial blood followed. A fluid drachm of the above-named solution was immediately thrown in with a small syringe, constructed for the purpose, and the canula withdrawn. The immediate effect was an intense pain in the left temporal region and a flushing of the face, which latter only lasted a few seconds. A chill followed, accompanied with nausea and vomiting. Reaction took place in an hour, but the vomiting continued, and for twenty-four hours all drinks were rejected; pulse 63.

15th.—Vomiting continues; pain less; upper lid much swollen; pulse 65.

16th.—Vomiting less; no pain; has slept well; pulse 60; swelling increased, and so tender as not to bear the slightest touch.

23d.—For the last six days the vomiting has gradually diminished; the pulse is natural; the tumour is less tender, firm, and the pulsation perceived only at the external angle; frequent lancinating pain is felt in the orbit.

During the whole of this treatment, both of punctures and infiltration, the head has been kept enveloped in bladders filled with a freezing mixture of pounded ice and salt, which was very grateful to the patient. He now began to complain of its being too cold. The heat in the head was reduced to the natural standard, and from the time of the infiltration neither thrill nor sound has been perceived. The veins of the face were much diminished in size, and the pulsation of the arteries reduced to its natural state. A slight pulsation was still perceptible at the external angle of the eye, for which a puncture was made at that point with a hot needle, on January 4th, 1853.

* Lancet, Aug. 20, 1853.

Jan. 10.—From the time of the last puncture no pulsation has been perceived, the swelling subsiding. At this time an opening was found to exist on the anterior surface of the globe of the eye, which still remains protruded between the lids. This was followed by severe inflammation of the globe, which lasted several days. The discharge from the opening was at first the humours of the eye, afterwards pus, but no blood.

Feb. 5th.—Swelling gradually subsiding; tumour firm, no pulsation; but little pain. The patient slept for the first time for more than a year without some one to keep wet cloths upon the eye, dressed himself, and walked about the house; health good.

March 5th.—Swelling entirely disappeared; the globe of the eye perfectly collapsed; lids closed.

June 6th.—The patient has been pursuing his ordinary occupation for three months; his health appears perfectly restored. The left orbit seems entirely excavated and free from disease.

Upon this case Dr. Brainard remarks as follows:—

"In 1850, I was engaged in making inquiries concerning the effects of this salt in certain diseased states of the system, and was induced, from theoretical views, to try the effect when thrown into the veins. Before doing this upon the human subject, I tried it upon a dog, dissolving, rather imperfectly, ten grains of it in one fluid ounce of distilled water. This was thrown at once into the saphena vein of a middle-sized dog, and the experiment was twice repeated without any ill effect.

"In December, 1851, I first used it upon the human subject, using in the course of eight weeks nineteen grains of the salt in solution. The largest amount injected at one time was three grains, dissolved in three drachms of distilled water; the number of times it was employed in this subject was nine. It had no ill effects, but the contrary; what is pertinent to our present subject is, that each of the veins into which it was thrown at the bend of the arm, was found after a certain length of time to be obliterated, and converted into a firm cord, without there being produced either pain or perceptible inflammation. I have since used it in four other cases—in two of them once, and in the other two twice each—without any unfavorable effects. In one of these cases, in which it was used twice, a vein was opened a second time, three days after the first operation, but it was found filled at that point with coagulum, which of course was not disturbed, but the injection made by another vein. Its tendency to obliterate the veins by a gradual process of thickening their coats and obstructing the circulation, was thus made sufficiently apparent, while its safety, used with requisite precautions, was clearly demonstrated. As these cases related solely to the veins, before using it in the case of tumour of the orbit, in which it might enter directly into the arterial circulation, it was thought proper to try it upon an artery in a dog. Accordingly, three grains of the lactate dissolved in three fluid drachms of distilled water, were thrown into the carotid artery of a small dog, and the vessel tied. The only effect was a slight irregularity of the action of the heart, which continued but a few seconds. As this entered directly into the cerebral circulation, its safety when used in much smaller quantity in the human subject might legitimately be

inferred. The result, as used upon the tumour, fully justified its employment, although the effects produced were somewhat severe. They were greatly less so, and less dangerous than those resulting from the ligature of the carotid artery; and used in smaller quantity, repeated if necessary, it seems to promise relief without the necessity of resorting to that operation.

"I may add here, that I have since used the same solution upon an erectile tumour of a venous character, of the size of a pigeon's egg, upon the inside of the lower lip, by injecting it at three different times, without any other effect than a slight tenderness, followed by gradual diminution of size and induration of tissue; but the cure is not yet complete.

"The applicability of this practice to the treatment of varicose veins and aneurisms will readily suggest itself, but further experiments will be required to determine to what extent it can be relied upon in these cases. The number of the 'Revue Médico-Chirurgicale de Paris' for May, 1853, contains some interesting experiments by M. Pravaz, M. Giraldes, and M. Debout, on the coagulation of the blood in the arteries of animals by the injection of a solution of the perchloride of iron, and also three cases in which it had been used for the treatment of vascular tumour in the human subject, in each of which suppuration, and in one gangrene, followed. These results are not of a nature to encourage further trials of that substance; but if we take into consideration that the solution of the perchloride of iron is a substance foreign to the normal constitution of the blood, and produces instant coagulation when brought in contact with it, whereas the solution of the lactate of iron is composed of elements which enter into the composition of the blood; that when thrown into the living vessel it does not coagulate it, but produces a thickening of the coats and a deposition of coagulable lymph from subacute inflammation; the difference between the two results will be readily understood. It is probable that the solution of the lactate, when thrown into the vessels, immediately undergoes decomposition, the acid combining with the soda of the blood, and the base passing into a higher state of oxidation, in which it naturally exists in that fluid. In no case has this solution, when thrown into the blood or into a vascular tumour, shown a tendency to produce suppuration, but in slow inflammation of an adhesive kind and limited extent. In one case, where it was inadvertently pressed in small quantity into the subcutaneous cellular tissue, instead of into the vein as intended, a hard swelling having all the appearance of a boil or small carbuncle was the result; but even this effect will not be produced by it, when used in that manner, unless the solution be in a certain degree concentrated."

4. *Mr. Eyre and M. Nelaton on the treatment of Aneurism by Galvano-puncture.**—Some important experiments are related in a recent number of the 'Wien Zeitschrift,' as performed by MM. Baumgarten and Wurtemberg, the result of which is that the positive pole alone has the property of coagulating blood. These experiments were performed upon living animals, and also upon man, as well as

* Lancet, July 13, 1853, and Medical Times and Gazette, Sept. 10, 1853.

upon blood and albumen drawn from the body. The negative pole was found to have an effect the reverse of coagulant, for it decomposed the blood or albumen, and caused a frothy extrication of gas. The rapidity and completeness of the coagulation was found to be influenced by the metal forming the positive pole, zinc having a more decided action than any other metal. The mere distance between the poles was found to be a matter of no great moment, provided a good conductor intervened between them.

These experiments go to explain how it is that galvano-puncture has been so uncertain an operation, and how, in some instances, it has caused suppuration and inflammation instead of coagulation. They also show the extreme importance of introducing the positive pole, and that only, into the aneurism.

Two cases are recorded during the half year, both of which are successful. The first, by Mr. Eyre (a surgeon in the H.E.I.C.), was a large aneurism of the external iliac; the other, by M. Nelaton, an aneurism by anastomosis over the nasal eminence.

1. Mr. Eyre's Case.—William H—, æt. 31, sergeant 1st Madras Fusiliers, of sanguine temperament, stout habit of body, and temperate habits, was transferred, on the 2d of August, 1852, to the garrison hospital, Bellary, with the following statement:—"Suffering from an aneurismal tumour of the left external iliac artery since December, 1851, which unfits him to march with the regiment." I have not the hospital journal to refer to, but recollect the circumstances at the time of admission, which was a day or two before I saw him. A few days previously he had felt an uneasy sensation in the left groin, extending down the thigh, which swelled, and being unable to walk, he came into hospital. The limb was then much swollen and very painful, but a pulsating tumour in the groin was not discovered till some days after. The history of the case from that time till the 4th of September may be told in a few words. The tumour gradually increased till it attained the size of a fowl's egg, pulsating strongly, accompanied with a *bruit*, which could be traced two inches above the tumour. The state of the limb varied, being more or less swollen and painful. The sergeant's health remained remarkably good throughout the long confinement; this in part may be ascribed to the nourishing but non-stimulant diet he was kept on. The attempt to cure by retarding the circulation above the tumour could not be efficiently adopted in such a situation, therefore, as the best means under the circumstances, a well adapted Signoroni's tourniquet was applied to the tumour. With this, pressure was maintained as firmly as could be borne. Whether it was due to this, or that the aneurism remained in a quiescent state, I cannot say, but month after month passed and no change in the state of the tumour occurred: there was certainly no diminution of it, nor abatement of the pulsation, and the question arose—what was to be done? in civil life, if the patient's livelihood did not depend on manual labour, doubtless the course would have been to let it alone; persistent pressure and perfect quiet might in time have effected a cure. But here was a soldier in the prime of life, who for ten months had been performing no duty, and whose return to it might be long postponed. He could not be allowed to be a burden on the State, whilst to discharge him as ineffective was a hardship to a man in good health, and after twelve years' service. To attempt a radical cure by taking up the vessel above the sac I did not deem justifiable, considering the serious nature of the operation, and that his life was in no present danger from the disease.

I had met with a few cases recorded, where galvano-puncturation was successfully resorted to. It was either in aneurism of small vessels, such as the temporal, or where compression of the vessels above could be maintained; indeed, the arrest of the circulation to some degree above the aneurismal sac was regarded as essential. In this case, owing to the situation, it was impossible to effect it; nevertheless I thought, under the circumstances of the case, it was warrantable to give galvano-puncturation a trial; and on the 4th of September, two long, fine needles were introduced an inch within the sac, each being connected with the wires of a galvano-magnetic machine. The object was to avoid shocks, and merely pass a current through the sac. Pressure, as firm as could be borne, was made above, but it was insufficient to stop pulsation in the tumour. The sensible effect produced was, pain in the groin and violent agitation of the whole body. At the expiration of twenty minutes the needles were withdrawn. The tumour was pulsating as before. Strict quietude was enjoined. For three days after, neither did the aneurismal tumour nor his general health give indications that any effect had been produced. On the 8th it is noted, "Tumour painful; is in a nervous and depressed state; cannot sleep." This condition passed off, and nothing presented worthy of notice till the 12th, when pain in the tumour recurred, and he was again in a nervous, restless state. Leeches were applied to the groin, and sedatives administered. As every circumstance in the case, from this date to the termination of it, is interesting, I will give the prominent features from the entries made at the time in the journal.

Sept. 14.—Much pain last night in the tumour; there is no change in its external appearance, but he thinks himself that it pulsates fainter than it did before. More leeches; anodynes.

15th.—Considerable erysipelatous inflammation on and around the tumour.

16th.—Much constitutional disturbance. Inflammation has spread round the hip; pain of a burning character; thigh much swollen; tumour pulsates. Purgatives and refrigerants ordered.

17th.—Constitutional disturbance abated, and local inflammation subsided.

19th.—Is very uneasy, nervous, restless, and desponding; complains of general pains; has lost his appetite, and cannot sleep; circulation quickened. The inflammation is quite gone. The tumour appears to be larger, but pulsation not so strong as before. The patient describes an uneasy sensation in the aneurism, which he traces along the course of the vessels to the heart. A *bruit* is heard in the tumour and along the iliac for an inch or two; heart's impulse and sounds normal. Digitalis and morphia prescribed.

20th.—Calmer to-day.

21st.—Is returning to the condition he was in previous to the operation.

22d.—The tumour feels harder, and the pulsation fainter; the heat, he says, is more in the vessel above than in the groin.

27th.—Tumour sensibly harder, and pulsation fainter.

Oct. 6th.—Pulsation to-day is very faint.

8th.—Pulsation hardly to be felt.

11th.—No pulsation for the last three days; the tumour is hard and diminishing; no pulsation can be heard by the stethoscope for two inches above or below the sac.

20th.—No return of pulsation, and the tumour is gradually lessening; limb but little longer than the opposite one; has lost the numbness so long felt in it, and only complains of want of power to walk.

It is unnecessary to continue further extracts from the journal. From the date last recorded to the present, Jan. 4th, 1853, Sergeant H—, has been making good progress in walking.

The remains of the aneurismal sac feel like an enlarged inguinal gland, about the size of a nut. There is œdema of the leg still.

In the case whose treatment by galvano-puncturation led me to try it in Sergeant H—, the cure was effected by a continuous current of electricity, producing coagulation of the blood in the sac. One may infer this, by the rapid effect, from a case of subclavian aneurism: "The tumour was felt to be becoming gradually solidified; and before the withdrawal of the needles, it had become perfectly solid, and pulsation was no longer felt in it." In another case of popliteal aneurism, a like rapid effect was not obtained (attributed to the agitation of the patient); still, in twenty-four hours pulsation ceased, and in seven days he left the hospital, walking quite well. This was not the *modus operandi* in the sergeant's case, but inflammation and deposit of lymph, which filled up the sac. This mode is a hazardous one, and was not intentionally induced. The galvanic effect was probably too violent to produce the former, though the machine—an electric magnetic coil one—was used at its lowest power. I thought at first too little had been done; but when I found the external sign of the inflammation going on within the sac, accompanied by much constitutional disturbance, I began to fear that too much had been done. I watched with solicitude for the dark spot on the tumour, the forerunner of sloughing. Happily, the threatened danger passed away. The patient was of sound constitution; he lay in a spacious, well-ventilated ward, and the season was favorable; under opposite circumstances the event might not have been so propitious. Notwithstanding the medical cure effected in this case, I should reluctantly resort to it again for aneurism of the external iliac, unless I had the electric power under command; but still, a successful case by such means may not be without its value in the records of surgery.

2. M. Nelaton's Case.—A young woman, æt. 20, presented herself at the hospital to be treated for a tumour, situated over the nasal eminence, extending more to the left than to the right, manifestly composed of a convolution of blood-vessels, which could be traced by the finger. There was a distinct trembling synchronous with the arterial systole, and the ear detected a well-marked murmur. The patient referred the disease to a blow received two or three months before. The nature of the affection was immediately recognised by M. Nelaton, as consisting of dilatation of the arterial trunks in this region. The situation of the tumour in the mesial line would have rendered necessary ligature of both carotid arteries; and M. Nelaton preferred, to so dangerous a proceeding, a trial of galvano-puncture, which he performed in the following way:—

Two needles were applied to those points of the tumour where the pulsations were most apparent, and then brought into connexion with the battery of Bunsen ("Système de Piles de Bunsen") composed of thirty pairs of plates, which were permitted to act uninterruptedly for ten minutes. For the distance of a centimetre from the point of contact of the needle, connected with the positive pole, an induration was felt, caused by the coagulation of the blood, in the tortuous vessels of the part.

The pain was very slight indeed. A similar application of electricity was effected, eight days afterwards, in another point of the tumour, and with the same result. In short, six sittings sufficed to stop the pulsations in the whole extent of the tumour, and to lead to the obliteration of the plexus of arteries of which it was composed. The harder parts became in time absorbed without recurrence of the permeability of the vessels.

5. *Mr. Richardson on the anæsthetic properties of the Lycoperdin Proteus or common Puff-Ball.**—"A few months since," writes Mr. Richardson, "I had a conversation with my friend Mr. Henry Hudson, a Leicestershire surgeon, on the management of bees; and was particularly interested in his description of an old, and, as I now find, very prevalent custom, of stupifying these insects with the smoke of the fungus known under the name of puff-ball, before extracting the contents of the hive. By this stupifying process, the bees, I was told, could be rendered inactive and insensible for several minutes; but that they all recovered eventually in the most perfect manner, and that the cruel practice of destroying them with the fumes of sulphur was thus avoided.

"This practice of rendering bees insensible by inhalation is so much like the modern plan of producing narcotism in men and animals by ether and chloroform, that my mind very naturally seized the analogy; and I was induced to perform a series of experiments on animals with the fungus."

In these experiments he found it possible to produce the most perfect anæsthesia with the fumes. His experiments had been made on dogs, cats, and rabbits, and had been witnessed by Drs. Willis, Crisp, Cormack, Snow, and several others. He had administered the narcotic fumes in the impure state, and in a clarified state obtained by passing them through a solution of caustic potass. When an animal was exposed to a large quantity of the narcotic vapour, the narcotism came on very speedily, and the insensibility was most decided, but recovery soon took place. Dr. Willis and Mr. Richardson had removed a large tumour from the abdomen of a dog that had been placed under the influence of the narcotic. No sign of pain was shown during the operation, and the animal did well afterwards. The fumes were obtained by burning the fungus. When a moderate quantity was inhaled slowly, the narcotism came on and passed off slowly, the animal exhibiting all the symptoms of intoxication, with convulsions, and sometimes vomiting. Several animals had been intentionally destroyed by the narcotic. It destroyed life slowly; a dog would often inhale the fumes for twenty minutes or half an hour after being completely narcotised, previous to expiring. The heart's beat in all cases survived the respirations. The lungs after death were pale; there was no sign of congestion in any organ; the blood retained its red colour, but did not coagulate quickly; cadaveric rigidity set in in two or three hours. During recovery from a protracted narcotism, an animal would sometimes be quite conscious, but insensible to pain. Mr. Richardson had himself inhaled the clarified fumes of the fungus; they produced in him symptoms of intoxication and drowsiness, but he did not breathe them long enough to become completely narcotised. Mr. Richardson was able to afford but little information as to the nature of the narcotic agent contained in the fumes. Many of the fungi possess narcotic properties, and had been supposed to possess an alkaloid resembling morphia; but the subject had never been thoroughly investigated. He should only say, concerning the narcotic

* Association Medical Journal, June 3, 1853.

principle contained in the puff-ball,—1st. That it was of a most volatile nature; 2dly. That it was not absorbed by alcohol, water, or strong alkaline solution; 3dly. That if the fungus was burned in oxygen gas, the narcotic principle still remained in the fumes, and produced its effect, if free oxygen was breathed with it. The fungus had been given internally to two animals without effect. In Italy, it was fried and eaten as food. In conclusion, Mr. Richardson said, that he had been anxious only to show that a volatile narcotic principle, capable of causing anæsthesia by inhalation, did exist in one of the fungi; it remained to be seen whether other fungi possessed a similar principle, and whether from a fungus an anæsthetic could be obtained that might be used in practice, with as little trouble to the operator and with less danger to the patient than ether or chloroform.

6. *Mr. Spencer Wells on the use of Prismatic Spectacles for the Cure of Squinting.**—The following remarks upon a plan of treatment, which is at the same time simple and promising, are well deserving the attention of practical men:

"Dr. Kurke, a Dutch physician, first recommended prismatic spectacles for the cure of squinting. He has recorded one case cured by their use in the Dutch journals. Dr. Von Gräfe, of Berlin, has since employed them very extensively. During a recent visit to Berlin I had frequent opportunities of observing their effects upon his patients, and I think that the results of his experience should be made known to the profession in England.

"The glasses are fitted in ordinary spectacle frames. They are simple prisms of various degrees, from 1 to 20. It would be possible to make them achromatic; but I have only seen the ordinary ones in use.

"The operation upon the sound eye, as explained by Dr. Von Gräfe, is as follows:—When a prismatic glass is held before one eye on any point of sight in the converging direction of the optic axis, the light falling upon this eye is diverted from its former course, and no longer arrives upon the macula lutea, but forms a more or less excentric picture, according to the refracting power of the prism. From its position, this is no longer combined with the central picture on the other retina into one perception, but is perceived separately. Thus the object upon which the optic axes converge is seen double.

"Theoretically this phenomenon should be observed when a prism of very moderate power is used; but observation teaches us, on the contrary, that no diplopia follows when weak prisms are employed, especially if the base be directed outwards. This might be explained in two ways. Either the picture on one retina is suppressed, or the eye which sees through the prism takes a new position, which is not perceived by the observer, so that the picture is not formed excentrically, but falls, like that of the other eye, upon the macula lutea. The improbability of the first supposition at once appears from the fact that no diplopia is produced by weak prisms, while more powerful ones produce it at once, and the greater the excentric position of the picture the more easily it would be suppressed. The truth of the second explanation is established by a more exact observation of the position of the eyes. On applying the prism we see the optic axes deviate from their former position, and return to it as the prism is removed. At the moment of removal the object is seen double, because both axes are not directed upon it. Thus, in order to prevent diplopia, an involuntary strabismus occurs, and we

* Medical Times and Gazette, Aug. 27, 1853.

can produce this in any direction by corresponding positions of the prism, but most decidedly so inwards, less so outwards, much less so downwards, and least of all upwards. We can also produce strabismus in this manner in diagonal directions.

"It follows that by the use of prismatic glasses we have the power of altering the tension of any given muscle of one eye without producing any alteration in the other. This is the peculiar advantage which none of the ordinary orthopædic means formerly employed possessed. On the contrary, the result hoped for from their employment was not only frequently frustrated by the movements of association of the two eyes, but sometimes, as in cases of recent muscular paralysis, an effect directly the reverse of that desired was brought about.

"The increased contraction called for from the relaxed muscle by the use of prismatic glasses is the source of their curative power. For example, in a case of convergent strabismus with diplopia, a prism with its base directed outwards alters the position of the excentric picture on the retina of the squinting eye so greatly, and brings it so near the macula lutea, that single vision follows any voluntary power conveyed to the abductor muscle. Consequently, the angle of the squint is somewhat diminished. As it becomes less, and the power of the abductor increases, prisms must be used gradually diminishing in power, until at last a perfectly accurate corresponding position of the eyes is attained at all distances,—in other words, the squint is perfectly cured. I have seen patients of Dr. Von Gräfe's who were thus completely cured in about six weeks, commencing with strong glasses of the numbers from 15 to 20, and gradually wearing them less and less powerful. They are principally applicable in young persons, who squint but slightly; and in cases of diplopia biocularis, where the abnormal position of one eye is only observed when an object some feet distant is regarded, they are the only certain means of cure.

"In more marked degrees of strabismus the muscle must be divided, because the use of strong prisms, and the efforts of the patient to avoid diplopia, become very troublesome; and if the union of the two images causes too great an effort, an effect is produced exactly the opposite of that desired; for if the diplopia cannot be removed, the double images separate still further from each other, because, when distant, they are not so intolerable as when near.

"In many cases, after operations for the cure of strabismus by division of the muscle in one or both eyes, although great improvement follows, the cure is not perfect. Some degree of squint still persists in one eye, and probably some diplopia when objects at certain distances from the eye are attentively regarded. In such cases, the prismatic glasses suffice to complete the cure commenced by the operation. I saw several instances in which this proved to be the case in the practice of Dr. Von Gräfe.

"I have patients under my care at present who are wearing these spectacles, and I shall take a future opportunity of making the results known. Messrs. Watkins and Hill, opticians, of Charing Cross, have had the glasses ground and fitted for me, and make them at any angle which may be required. Messrs. Bland and Long, of Fleet-street, also make them."

7. *Mr. Toynbee on the use of an artificial Membrana Tympani in certain cases of Deafness.**—After describing the structure and functions of the membrana tympani, tympanum and eustachian tube, Mr.

* Pamphlet, London, 1853, pp. 46.

Toynbee goes on to speak of the artificial membrana tympani, the manner of using it, and the cases in which it is applicable, and to give cases in illustration.

The artificial membrana tympani made by Messrs. Weiss, from these directions, has hitherto been perfectly successful. As supplied by them, the portion of vulcanised India rubber or gutta percha is about three quarters of an inch in diameter, which leaves sufficient margin for the surgeon to cut out a membrane of any shape that may seem to him desirable, and to leave the silver plate either in the centre, or towards the circumference, at his discretion.* The silver wire is of sufficient length to admit of the membrane being introduced or withdrawn by the patient, but is not perceived externally, except upon especial observation. A second kind of artificial membrane is made, by fixing the layer of gutta percha or vulcanised India rubber between two very delicate silver rings, from the eighth to the sixth of an inch in diameter; these rings are riveted together, leaving a portion of the membrane drawn moderately tense in their centre; a margin of the membrane is also left beyond the circumference of the rings, so as to prevent the latter being in contact with and irritating the tube of the ear. To the surface of one of these rings the silver wire is fixed by two branches, and they should be joined, so that the outer surface of the rings should look obliquely outwards and forwards instead of directly outwards, thus imitating the direction of the natural membrani tympani. This kind of membrane is often preferable to that previously described, if the meatus is sufficiently large to admit of its passage.† A pair of forceps is made, whereby the artificial membrane can be more easily introduced and withdrawn.

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As in cases of perforation or destruction of the membrana tympani there is so frequently catarrhal inflammation of the mucous membrane of the tympanum, it is obviously important that no foreign substance should be placed in contact with that membrane; and, as there is always a margin of the membrana tympani remaining, the object of the surgeon should be to keep the artificial membrane external to the latter. After carefully noting the size of the inner extremity of the meatus to which the natural membrana tympani was attached, the operator should then cut the artificial membrane as nearly of the size and shape of the natural one as possible, taking care at the same time to keep the margin quite smooth and regular.‡ The patient must then be placed with the head inclined to the opposite shoulder, while a strong light is thrown into the meatus, which, if liable to discharge, should have been previously syringed. The operator will now take the artificial membrane, and, having moistened it with water, pass it, by means of the silver wire, gently inwards, until it has reached what he considers the natural position. This he will ascertain by the occurrence of a faint bubbling sound, caused by the escape of the slightly compressed air beyond it; he will also feel a slight obstruction offered to its further passage by the remnant

* The surgeon can bend the wire, so as to make the outer surface of the membrane face obliquely outwards and forwards, like the natural organ.

† In some cases, however, it produces a loud noise, as if it were too tense; it would, perhaps, be desirable to have it made with only one branch, so that the surgeon may be able to alter the angle of the membrane with the stem, according to the case.

‡ In cases where only a small border of the natural membrane remains, it is often desirable to cut the artificial membrane of a size larger than the inner extremity of the tube, so that its edge may turn outwards.

of the natural membrane. Should he attempt to pass the artificial membrane beyond this point, the patient will complain of pain, which until then had not been felt. The most certain test, however, of the artificial membrane having been properly placed, is the sensation of the patient, who discovers, by the sound of his own voice, or that of the surgeon, or by the movement of his tongue and lips, that his hearing has been suddenly much improved.

It will be imagined, that great care must be taken to cut the membrane so that it shall fit the inner extremity of the meatus with exactness, since, if too large, it would cause discomfort; and, if too small, it would not fulfil its purpose of rendering the tympanum an air-tight cavity. It is not easy, in all cases, to fit the artificial membrane exactly to the inner extremity of the meatus, so as not to allow of any communication between the air in the tympanum and that in the external meatus; this is, however, the object which should always be sought to be attained. At first, the patient should be instructed not to use the artificial membrane for more than two hours daily; and, if he complains of an uncomfortable feeling, one hour, or even half an hour, will be sufficient.

It would, perhaps, be expected, that the contact of a foreign body, like the artificial membrana tympani, with the wall of the external meatus, would soon become intolerable; such, however, is not the case, and several patients have left my room without being able to say, from the sensation in the ear, whether any foreign body were there; many have now worn this apparatus daily, during several months, without having suffered the slightest pain. The explanation of this circumstance may be found in the fact, that the most sensitive part of the meatus externus is about its centre, the membrane in the immediate vicinity of the membrana tympani not being so abundantly supplied with nerves; another explanation is, that the circumference of the artificial membrane presses with extreme gentleness against the wall of the meatus.

The results of the application of the artificial organ have been much more satisfactory than I had reason to anticipate. I have already used it beneficially in nearly fifty cases.

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The cases in which the artificial membrana tympani is of the greatest benefit are those where there is a well-defined aperture in the natural membrane; or, if it be entirely absent, where there is simple hypertrophy of the mucous membrane of the tympanum, with or without discharge from its surface. In these cases, it will be found that the organ has by no means entirely lost its power of discerning sound; as a general rule, the human voice is heard when the mouth of the speaker is situated within about a foot of the patient's ear, and when the words are spoken slowly and distinctly. The diminished power of hearing just noticed, while it entirely excludes the sufferer from the advantages of general conversation, is, however, greatly aggravated when, to the affection of the membrana tympani and mucous membrane of the tympanum, the stapes become ankylosed to the fenestra ovalis, or the nervous expansions have been injured. In such cases where the patients require to be shouted to close to the ear, the artificial membrane will not prove of any service.

The pamphlet ends with a protest against the practice of excising enlarged tonsils for the cure of deafness.

8. *Dr. Fenwick on a new inguinal Hernia Pad.**—The peculiarity and apparent advantage of this pad is its *triangular* form, by which it is enabled to cover aeeurately the whole inguinal eanal. The sides are all somewhat hollowed, so as to receive respeetively the eurvature of the lower edge of the belly, of the thigh, and of the prominence over the spine of the pubis. This pad is attached to the ordinary spring by a swivel serew. Dr. Fenwiek states that this pad remains immovable in its place, and causes no galling of the parts when once properly adjusted.

9. *Mr. Syme on the treatment of Obstinate Strictures of the Urethra by external incision upon a grooved director.*†—The paper of whieh the following is an abstract, was brought before the Royal Medical and Chirurgical Society about the elose of the last session. There are certain forms of stricture, the author proeeeded, which resist the hitherto established means of treatment, and seem to require some other remedy. In one form the strieture is distinguished by an extreme degree of irritability, resenting attempts to effect dilatation; in another, the strieture, when dilated, speedily eontracts; in a third, the stricture, though susceptible of dilatation, still continues to render the evacuation of urine painful, difficult, and uneertain. For these three forms of disease the only treatment hitherto reeommended has been threefold: dilatation, caustic, and internal ineision. All have proved insufficient to relieve an affection the distressing nature of which is illustrated by the will of the late M. d'Argenteuil, who bequeathed funds sufficient to give at stated periods a prize of 500 francs for the best praetieal improvement in its treatment. The author is prepared to maintain that in these eases a free division of the contracted part of the urethra is essentially required. For this purpose a grooved direetor is introduced,—and this can always be effeeted with time and patience; the patient being then placed upon his baek at the edge of a bed, with the knees held up, an incision about an inch and a half is made exactly in the raphé of the perinæum, sufficiently deep to allow the director to be felt, when a knife is introduced into the groove, and the whole thickened and contracted portion of the urethra is divided. A No. 8 silver catheter is then introdueed into the bladder, and retained there for at least two and not more than three days. The operation, though simple, requires great eare that the knife should be kept exactly to the mesial line. The Parisian Imperial Aeademy of Medicine, in awarding the Argenteuil prize in September last to M. Reybard, for extending the plan of internal incision, fell into an error in stating that "whatever be the form of the stricture, the incision ought always to be directed laterally, so as to avoid the artery of the bulb placed below." Such a line of incision would most assuredly lead to the very accident. The author proceeded to express the extreme surprise which he had felt upon hearing that a London surgeon had, in a large hospital, attempted the operation professedly upon his principles, but forgetting the grooved director. This gentleman tried to divide the stricture upon a silver catheter.

* Montreal Monthly Journal, July, 1853. † Lancet, May 7, 1853.

In such a manner—as the author affirms—it is impossible to make a straight continuous incision. Then the catheter, instead of being retained only two or three days, was kept in the bladder six weeks! There is very little bleeding at the time of the operation, and it can be readily stopped by pressure. There is no danger of extravasation of urine, there being no openings in the deep fascia, and the obstruction in the anterior part of the urethra being removed. The patient, upon awaking from his chloroform sleep, suffers so little pain that he can scarcely believe the operation completed; he finds himself in bed with the catheter fixed in the bladder, and all difficulty in making water removed. The diet should be chiefly farinaceous. At the end of forty-eight hours the catheter is usually removed. A curious train of nervous symptoms is apt occasionally to ensue; they are alarming both to the patient and to his friends, but, as far as Mr. Syme knows, are free from danger. They consist of rigors, bilious vomitings and delirium, coldness of the extremities, and suppression of urine. In a little time they disappear, so that the best cordial is the surgeon's assurance that the disturbance is only temporary. If the water flows through the proper channel, recovery may be said to be complete in the course of a few days. When the urine escapes by the wound after the catheter is withdrawn, it continues to do so for eight or ten days, and then, diminishing to a few drops, speedily resumes its natural course. A full-sized bougie should then be introduced once or twice a week for two or three weeks, and then at more distant periods, according to circumstances. The author then related some cases to show how stricture of the urethra occasionally presented itself in forms which resist the hitherto established means of treatment; secondly, that strictures of the urethra deemed impermeable may, through time, admit the introduction of instruments; thirdly, how a free division of the thickened and contracted part of the canal by external incision upon a grooved director affords complete and permanent relief in the most distressing and obstinate conditions of the disease.

Case 1.—About twelve years ago the author was requested by the late Dr. Hay, of Edinburgh, to take charge of a gentleman suffering from stricture. It had existed upwards of twenty years, and admitted during that period of palliation by the use of bougies. Latterly the symptoms had become much aggravated. Day and night the calls to make water were almost incessant, and there was often involuntary discharge of urine, by which the clothes were kept wet and offensive. Catheters were introduced up to No. 5, but then further dilatation became difficult. Confinement to bed was next ordered, and then the largest sized instrument was introduced; but contraction of the canal soon returned as before. Internal incision was then freely tried by the late Mr. Liston, so that the catheter could be freely passed; but again the stricture formed. Ultimately he submitted to the external incision of the urethra by Mr. Syme, and from that time to this, more than ten years, he has continued well.

Eleven successive cases were related after this, all equally satisfactory in their results.

10 .*Mr. Hamilton on the cure of Urinary Fistulæ by Compression.**—"The consideration of the extreme obliquity of the fistulæ and the almost valvular membrane over the internal orifice, confirmed me," says Mr. Hamilton, "in the idea that compression would be very useful in the treatment of some cases of urinary fistulæ, for, properly applied over the perinæum, it ought, by bringing the sides of the fistulæ together, to obliterate them; as we so often find it to do in mammary fistulæ, and those remaining in the groin after the suppuration of the lymphatic glands in cases of constitutional bubo; and, also, by pressing upwards the lower side of the urethra against a catheter retained in the bladder, it would tend to shut the internal valvular orifice, and by thus preventing the entrance of urine, materially assist the first object." Mr. Hamilton relates several successful cases in proof of the correctness of his anticipations, of which the following will show as an example:

John Campbell, æt. 29, admitted into the hospital in July, 1849. Has three urinary fistulæ, one in the perineum near the scrotum, a second on the abdomen at the root of the penis, and the third and principal one at the lower part of the abdomen, three fingers' breadth from the root of the penis, marked by a protuberant papilla in the centre of a cicatrix. Pus and urine can be pressed from this. From the two first the urine dribbles out on micturition, and it comes from the last in a double stream, with a strong jet, at least a foot from the belly. It is difficult to say whether more urine passes this way than by the penis. The belly is all scarred with the cicatrices of former incisions, made to relieve the infiltration of urine, and to give exit to sloughs. These scars are of a dull red colour, and some, not quite healed, are covered by scabs. They are chiefly confined to the right side of the abdomen. The integuments of the pubis and right hypogastrium are pale red, glossy, and swollen, and the fold of the right groin is made a deep sulcus. There is some tenderness on pressure.

He had gonorrhœa nine years before, and two years after, symptoms of stricture began. Three years ago, whilst travelling in the canal-boat, he drank an immense quantity of ginger beer (seventeen half-pint bottles!) The next day he had great pain at the bottom of the belly, and was unable to make water. A surgeon passed an instrument and relieved him. This operation had to be performed twice subsequently. The water only flowed in a small stream, and deposited a mucous sediment. Six months since, after shivering, profuse sweats, and the most intense pain over the pubis, which became red and swollen, he suddenly got extravasation of urine, and was obliged to go into the Tullamore Infirmary. By the judicious treatment he there underwent,—extensive incisions, &c., his life was no doubt saved. He remained there until a few weeks ago, pretty much in his present state. While in the infirmary he says that an instrument had been kept for several days in the bladder. I succeeded, a week after his admission, in getting a No. 8 gum-elastic catheter into the bladder; the same day I opened an abscess in the scrotum.

The next day, July 28, I reintroduced the gum elastic catheter, left it in, and applied compresses over the three fistulæ.

30th.—No urinary discharge from the fistulous openings at the base of the penis and perineum; but a dribbling still from the one above the pubis.

31st.—Slept well last night. The instrument was changed for a larger one. When the compresses were removed a small quantity of pus and urine escaped from the upper fistula. The compresses and bandage were reapplied.

* Dublin Quarterly Journal of Medicine, Aug. 1853.

August 2d.—The urine has ceased to come from the fistula above the pubis. The instrument was taken out and the compresses removed, and he was let out on pass for some pressing business.

Two days after, a little urine appeared at the supra-pubic fistula. I therefore introduced the catheter, and applied the compression as before. I did not remove it for a few days, after which no more water appeared. My clinical clerk, Mr. Stewart, observes in his report of the 14th:—"I witnessed him making water; not a drop came from any of the fistulæ. The urine came in a full stream, and appeared natural."

I kept him in hospital until the 6th of September to ensure the proper dilatation of the passage; he was then discharged perfectly well.

From the number and extent of the fistulæ, this case required more time, and yet in what other way would it have required so little to effect so complete a cure? It appears to me a striking instance of the value of compression. The most essential point of pressure I believe to have been that over the perineum; by its pressing on and closing the internal orifice, the urine was prevented entering it, and the supply, as it were, on which depended the existence of the abdominal branches of the main fistula was thus cut off.

Mr. Hamilton also relates a case in which the treatment did not succeed, which also shows the value of that treatment.

A boy of the name of Doherty, æt. 17, was admitted into the Richmond Hospital in September last. About two years before, he had fallen astride on a beam of timber, and had ruptured the urethra. The retention of urine could only be relieved by an incision through the perineum down to the lacerated urethra. In spite of every judicious treatment, and the keeping of an instrument in the bladder for a long time, the wound never healed, but ended in a perineal fistula, through which the urine flowed freely. He went to the country, and at the end of two months the urethra had so contracted that for a long while no instrument could be got through the strictured part; and during many months a small silver catheter was once only passed into the bladder. He then remained in an hospital for eight months, when an incision was made through the fistula, and an instrument passed into the bladder and retained, but it had soon to be removed, from its exciting severe constitutional disturbance; and he left the hospital as bad as when he entered it.

When I first saw him, his state was wretched in the extreme. He could, with much straining, only pass water drop by drop, the greater part coming very freely from a fistula. This fistula was situated anterior to the anus, a small raised papilla admitting the point of a probe. It kept constantly oozing a clear, pale urine, wetting the sheets and bed, excoriating the perineum and anus, and keeping him in a sop of urine, rendering it necessary to put a double blanket and piece of oil-cloth under him. He was broken down in health and very irritable, unable to bear the perineum to be touched, or an instrument to be passed.

When I attempted the last, I found the smallest instrument arrested a little anterior to the place of the fistula, where a hardness of some extent could be felt. On pressing firmly with the point of the instrument it slipped out at the fistula.

Sixteen days after admission I got in a No. 3 metallic catheter, and by degrees increased the size to No. 10; but this not without difficulty, and the irritability of the urethra was such that it was not until two months after admission that he became in a condition to bear a gum-elastic catheter to remain in, and the compression to be applied.

Though I tried compression six or seven times, it did not accomplish the closing of the fistula, but a great improvement was effected.

Dec. 16th.—After the third trial the report is—"He passes water in a good stream, and only a drop or two comes by the fistulous opening; an immense improvement has therefore been effected by the compression."

Beyond this I never could get, which I attributed to the internal opening being, probably, large from the nature of the cause—a ruptured urethra; and secondly, from the fistula being nearly direct, as proved by the ready escape of the end of the instrument out through it when I first explored the urethra.

The paper ends with the following remarks upon the mode of applying the compression. "If the fistula is deep at the bottom of a sulcus, as sometimes happens, it is best to put a very small compress of fuzzy lint over the opening, so as to fill up the hollow, and then graduated compresses over this; if the surface of the fistula is plain, a moderate-sized flat compress, with one or two larger ones over it, will do; a double-headed spica bandage of strong calico keeps these in their places, and exercises a firm, steady, equable compression. The bandage should be pinned to the compress, and plenty of pins should be used at the crossing of the bandage to prevent its slipping. The gum-elastic catheter, which has been previously introduced, may be best secured in by a piece of thread tied round the top, and the ends twisted round two pins, one in each groin, where the bandages cross. A little plug of wood in the catheter can be removed when the patient feels a desire to pass water,—it should not be done too often. If the patient says he thinks some water has come through the fistula, the bandage and compress can be removed, and if found to be the case, a larger-sized catheter can be passed, and fresh compresses and bandage applied with tighter pressure. But if there is no feeling of the water having come, the apparatus may be left on for forty-eight hours; and, as the cases here given prove, at the end of that time the cure of the fistula may be complete."

11. *M. Denamiel on the Diagnosis of Urinary Calculi by the touch, and on "Litholiby."**—In a note recently addressed to the Academy of Sciences of Paris, M. Denamiel recommends a new way of diagnosing and destroying stone in the bladder. He introduces one or two fingers into the rectum, and satisfies himself of the presence of the foreign body through the intervening coats of the bladder and bowel, either by the simple touch or by the superadded test of *ballotment*. In cases where he cannot reach the stone by this means, he introduces the urethral sound, and endeavours to bring the stone to the finger by proper movements of the instrument.

M. Denamiel further says that in the majority of instances he is able to crush the stone between his fingers, or between his fingers and the urethral sound; and that in the remaining minority he is able to succeed, after having made the stone friable by the previous injection into the bladder of an alkaline solution. This process of crushing he calls *litholiby*.

* Rév. Méd. Chir. de Paris, Juil., 1853.

III.

REPORT ON THE PROGRESS OF MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

1. *Dr. Lawrie on a case of Acute Hypertrophy of both Mammæ in an adult.**—Cases of this kind are very rare. This case also contains several features which seem to render it almost unique; it occurred in a woman æt. 30, without any acknowledged or ascertained cause; it affected both mammæ; it ran a rapidly acute course, resisting all remedies, and terminating fatally in 40 days; and it presented appearances in the ovaries and liver, not hitherto observed in any case of hypertrophy of the mammæ. Dr. Lawrie writes:

Mary D—, æt. 30, house servant, (cook, —— Club), called upon me about the 9th of April, 1852, complaining of general pyrexia. At this visit she made no complaint of her mammæ, but when I saw her again, two days afterwards, she said they were painful. I found them very slightly enlarged, painful to the touch, the areola I thought darker, and the papillæ more prominent than natural, the integument otherwise normal. Suspecting sexual uterine excitement, I questioned her very closely. The girl, being from the Highlands, and speaking English imperfectly, did not give very satisfactory or intelligent answers, but the impression left on my mind certainly was, that she might be, and probably was in a very early stage of pregnancy. I accordingly prescribed some gentle diaphoretic medicine, and waited the result. The only cause that she could assign for the enlargement of her breasts, was sudden transitions from heat to cold, the necessary attendant on her employment as a cook.

She did not improve, and as the breasts continued to increase rapidly, I sent her to the Infirmary on the 19th April. She proved a very discontented patient, and twice left the hospital without permission, so that the treatment employed had not very fair play. From whatever cause, none of the means prescribed had the slightest beneficial effect. They consisted, in the early stage, locally of friction, and fomentations, followed by cold and gentle pressure, leeches, and acupuncture; internally, mercury to the extent of gentle salivation, and iodine freely.

On her admission into hospital, 19th April, the breasts are described as enlarged to double their natural size, firm, elastic, resistant to the feel, but very irritating and inconvenient from their weight and size. The integuments not discoloured, and slightly painful. She left the house on the 28th, and returned on May 7th. The mammæ are then reported "to have increased very much in size, to be affected with acute stinging pain, and to have assumed a bluish colour." These symptoms continued to increase, the suffering became

* Glasgow Med. Journal, April, 1853.

very great, and the colour of both breasts was a deep purple before her death. They were never in the slightest degree "pendulous;" on the contrary, although moveable, they were firmly bound to the chest, and from their tension, caused not only pain, but considerable difficulty of breathing. The lobulated form of the glands was very distinctly felt. That their vascularity was great, was shown by the jets of blood which flowed from the puncture of a common-sized grooved needle. In a few minutes I collected six or eight ounces, and to all appearance I could have bled her as freely from this small aperture, as if I had opened a vein in her arm. About the 10th or 12th of May, her general health began to give way rapidly, typhoid symptoms set in, she became partially hemiplegic, and her tongue was much drawn to the left side. She died on the 17th. I showed her twice to my colleagues in consultation; none of them had ever seen a similar case. Surgical interference was considered quite inadmissible, and no means beyond those already employed were suggested. I intrusted the post-mortem examination to my friend, Dr. Wm. Aitken, Demonstrator of Anatomy to the University, and Pathologist to the Infirmary, who has most kindly sent me the following report:

"A cast having been taken of the external form of the breasts immediately after death, the mammary glands were removed from the body for inspection and preservation. The right gland was larger than the left, but each preserved the characteristic lobulated form and arrangement of the gland substance. Along with the skin and a small portion of pectoral muscle which accompanied each gland, they weighed six pounds fourteen ounces; and it was observed that the skin covering them was less tense than before death, probably from the gravitation of the blood towards the dorsal regions of the body. The right, and larger gland of the two, when freed of all its accessory parts and hardened in spirit, so as to remove a considerable portion of water from its substance, weighed two pounds two ounces.

"The hypertrophy appeared to depend upon the following conditions of the gland substance, and its accessory parts: 1. The acini, or sac-like dilatations of the extreme ends of the gland tubes, were distended to about twice their size compared with a mamma which had never secreted milk. This distension appeared to be due partly to a granular exudation, and partly to a very large amount of epithelial cells, mingled in some places with globules of oil. The ducts of the acini were also in some places irregularly distended with this epithelial secretion. 2. On examining a section of the gland, harder portions could be observed, which, when isolated from the rest of the gland, varied in size from a millet seed to a pea, or a bean; and microscopic observation showed that these harder portions were the seat of an abundant exudation and secretion. 3. Immediately below the skin, a layer of exudation filled up the space between the lobules, making the surface of the gland assume a rounded aspect. This exudation was of a granular appearance, similar to fibrine in its first stage of organization; and it was found abundantly exuded into the interspaces between the tubes and ultimate lobules of the gland, apparently taking the place of the fat usually found there, and which had probably disappeared by absorption, the result of pressure. In each axilla the lymphatic glands were much enlarged, and infiltrated with a granular exudation.

"*Liver.*—Circumscribed deposits were irregularly and sparcly scattered throughout the whole substance of the liver, projecting in some places from its surface. They varied in size from a pea to a plum, presented a granular appearance microscopically, and no liver cells could be distinguished among the substance of these deposits; and while they were perfectly circumscribed

by the capsule of Glisson, the secreting substance of the gland was condensed round their periphery.

"*Uterus and ovaries.*—The ovaries and broad ligaments of the uterus were morbidly adherent to the walls of the pelvis, and appeared to be infiltrated with a serous exudation. The ovaries, on removal (and more especially the right one), were found to be in a state of inflammatory softening, and much enlarged. The fallopian tubes also, were unequally distended, especially near their fimbriæ, which adhered firmly to the ovaries. The softening was so great, that the substance of the right ovary was easily broken down under the finger, and no appearance of extravasated blood, or of corpora lutea, could be detected in either. The uterus was somewhat larger than one whose cavity had never been distended by conception. Its neck was more especially elongated, and did not terminate in an anterior and posterior lip separated by a transverse slit, as in the normal uterus. A pointed sugar-loaf-like apex projected into the vagina, through which an opening with an irregular border led into the cavity of the uterus; but so contracted that a probe about two lines in diameter, was all that could be passed through it. The whole aspect of this part of the uterus, perfectly resembled what is described as the result of ulceration and cicatrization of the neck and mouth of the uterus. The substance of the organ, more especially near its fundus, enclosed condensed white portions, like the commencement of fibrous tumours in its substance."

2. *Dr. Robert Lee on the Pathology of Phlegmasia Dolens.**—The paper, of which the following is the abstract, was read before the Medical and Chirurgical Society during the last session, in answer to a paper on the same subject, which is reported in our last volume, (p. 269.)

The true nature of this disease did not begin to be known until the publication of the memoirs of MM. Bouillaud, and Velpeau, and of the late Dr. Davis. Up to this period various hypotheses had been advanced respecting the cause of the swelling in the lower extremities of puerperal women,—mere speculations unsupported by facts; but the cases and dissections of the authors just enumerated, demonstrated that the true nature of the disease consisted in an inflammation of the trunks and principal branches of the veins of the lower extremities. In papers by the author, published in the fifteenth volume of the 'Transactions,' the actual condition of the iliac and femoral veins was ascertained, and he had been led to infer, that inflammation of these veins gave rise to all the phenomena in puerperal women of phlegmasia dolens, and that it commenced in the uterine branches of the hypogastric veins, and subsequently extended from them into the iliac and femoral trunks of the affected side. Other cases had been recorded in the 'Transactions,' of crural phlebitis following ulceration of the mucous membrane of the intestines. Experiments performed by Pirigott in 1839, and by Reumert in 1840, on dogs, showed that the action of chemical and mechanical irritants was limited to the vein on which the experiment was made, and the extension of the inflammation in the veins was not common; and Stannius, who had collated and tested all the facts bearing on the subject, doubted whether inflammation of venous trunks admitted of being excited by constitutional causes, independently of local irritation. A series of

* Medical Times and Gazette, June 4, 1853.

experiments on the veins of the lower animals similar to those just mentioned, had recently been made, and a paper on phlegmasia dolens had been read to the Society during the present session, not founded on actual observation of the disease as it occurs in the human subject, but upon experiments on the veins of the lower animals in which phlegmasia dolens had never been observed. The object of the present communication was to submit to the Society the observations which the author had made during the last twenty-four years on inflammation of the crural veins. The paper contained the record of forty-three cases of phlegmasia dolens. The first nine cases were accompanied by post-mortem descriptions, and preparations illustrating the disease; and the author was led, from the whole of the facts thus adduced, to the conclusions he had formerly expressed, "that inflammation of the iliac and femoral veins gave rise to all the phenomena of phlegmasia dolens, and that the inflammation commenced in the uterine branches of the hypogastric veins, and from them extended to the iliac and femoral trunks of the affected side." The next series comprised the history of twenty cases, which the author thought furnished additional evidence in favour of this conclusion, though, in consequence of the recovery of the greater number of the patients, an opportunity was not afforded of determining by dissection the actual condition of the crural veins. Nine cases followed, which demonstrated that phlegmasia dolens might occur wholly unconnected with pregnancy and parturition, and that in such cases the inflammation likewise commenced in the uterine branches of the hypogastric veins, and followed a course similar to what occurred in puerperal cases. In some of these the inflammation of the uterine veins was produced by cancerous disease of the os and cervix uteri; in others there was no organic disease of any kind previously existing. The concluding cases were five, in which crural phlebitis had followed inflammation of the saphena veins, and of the deep veins of the lower extremities, from fracture of the tibia and fibula, and the pressure of encephaloid tumours on the thoracic viscera. The author thought that these cases and dissections, as well as those of the distinguished authors whom he had quoted, proved in the most conclusive manner that inflammation of the iliac and femoral veins was the proximate cause of phlegmasia dolens; and that in puerperal women this inflammation commenced in the uterine branches of the hypogastric veins. It had likewise been demonstrated, by morbid anatomy, that phlegmasia dolens was a disease which might take place in women who had never been pregnant, and even in the male sex, and that, under all circumstances, the proximate cause was the same.

3. *Dr. Simpson and Dr. Reid on the frequent Irregularity and the occasional Protraction of the period of Human Gestation.**—1. In a communication to the Monthly Journal of Medicine, Professor Simpson relates four cases of protracted gestation, in which the periods respectively were 336, 332, 319, and 324 days. He also refers to observations by Dr. Merriman, Dr. Murphy, and Dr. Reid, all of which go to prove the same point. After this he proceeds:

* Edinburgh Monthly Journal, July, 1853; and Lancet, Sept. 3 and 10, 1853.

"One circumstance accounting, no doubt, for much of the apparent irregularity or instability in the duration of pregnancy, as shown in the above tables, in the cases prolonged to the 40th week, or beyond it, is the fact, that though impregnation usually takes place within a few days after the last catamenial discharge, it may not necessarily do so. For conception may in fact occur at any date previous to the recurrence of the next menstrual period. This gives an uncertain limit for the actual date of impregnation of twenty-two or twenty-three days—the average interval between two menstrual periods. But the possiblity of variation from this circumstance will by no means account for the great amount of variation in gestation which is so frequently observed. For there has now been recorded a long comparative series of observations upon the duration of pregnancy among our domestic animals, and particularly upon the cow, in which these sources of variation and fallacy with regard to the length of gestation, were avoided by the fact that the exact day and date of impregnation in these experiments, from a single intercourse with the male, were in each instance accurately noted and fixed. Thus Lord Spencer has reported the date of delivery in 754 cows, in which the day of impregnation from a single coitus with the bull had been carefully registered.* M. Tessier had previously published 572 observations of a similar kind upon the same animal.† If we omit a number of cases in each of these two series of observations, in which delivery supervened earlier than the thirty-seventh week, we have the results of Lord Spencer's and M. Tessier's observations presented in the following table.

TABLE I.

Periods of Gestation in Cows.

Weeks.	Days.	Spencer.	Tessier.
37th	From 252d to 259th	12	6
38th	,, 260th to 266th	4	8
39th	,, 267th to 273d	21	51
40th	,, 274th to 280th	124	166
41st	,, 281st to 287th	392	202
42d	,, 288th to 294th	175	105
43d	,, 295th to 301st	16	27
44th and upwards	,, 302d to 321st	7	7
		751	572

"This table shows that in the cow, even when the day of impregnation was fixed and ascertained, the period of delivery was still very far indeed from being quite stable and determinate.

"But to make the comparisons between these observations on the

* Journal of the English Agricultural Society, part ii, 1839.

† Mémoires de l'Academie Royale des Sciences, 1819, tom. ii, p. 1.

cow, and those reported above on the human subject, more complete, let us reduce the experiment on the gestation of the cow to a per-centage form, as we have already done in Table II, in relation to the cases in the human subject, recorded by Drs. Merriman, Murphy, and Reid. The following table shows the actual proportion of weekly deliveries in Lord Spencer's and M. Tessier's observations on the cow, as calculated from the known date of impregnation of the animal; or, in other words, the proportion of cases in every 100 in which the gestation was normal, abridged, or prolonged:

TABLE II.

Per Centage of Different Periods of Gestation in Cows.

Weeks.	Days.	Spencer.	Tessier.
37th	From 252d to 259th	1·60	1·05
38th	„ 260th to 266th	0·55	1·40
39th	„ 267th to 273d	2·80	8·91
40th	„ 274th to 280th	16·53	29·02
41st	„ 281st to 287th	52·27	35·31
42d	„ 288th to 294th	23·18	18·36
43d	„ 295th to 301st	2·12	4·72
44th and upwards	„ 302d to 321st	0·93	1·22

In making any comparison between the results of the period of gestation in the cow, as shown in Table II, and the period of gestation in the human female, it is necessary to remember, that, while the normal period of gestation in the human female is probably from 274 to 280 days, that of the cow extends, according to Lord Spencer, to 284 or 285 days. And hence, while we find that the largest per centage of deliveries of the cow, takes place from the 281st to the 287th day of gestation, the largest per centage of deliveries in the human female, as calculated even from the last day of the catamenial discharge, occurred in Dr. Merriman's and in Dr. Reid's observations, from the 274th to the 280th day; though in Dr. Murphy's series of cases, his largest weekly per centage occurred in the week following the 280th day from the last catamenia,—an occurrence probably to be explained by the circumstance of impregnation not following till two, three, or more days after the last menstruation.

Amongst the various observations which might be elicited by a comparison of these tables, let me state one more:—That though the period of gestation in the cow is found liable to considerable variations, and is by no means so precise and determined as many authorities have supposed it to be, yet the period of pregnancy in the human mother is not even so regular as the period of gestation in the cow. This greater apparent variation of the duration of pregnancy in the human subject in these tables, depends doubtlessly upon the

fact already adverted to, that the last day of the catamenia does not by any means, in the human mother, fix determinately the actual day of conception.

"Occasionally, however, in the human mother, pregnancy occurs under circumstances which fix the date of conception to a precise day. Dr. Reid, for example, has collected from the observations of various authors, and from his own practice, the history of forty cases, in the human female, where impregnation was the result of a single intercourse, the date of which was accurately known; the cases being all of them 'instances of single women who dated from one coitus, or of married females whose husbands had been absent for a considerable time before the last intercourse,' and all of them being selected with a view to avoid as far as possible every source of deception. Below I have thrown these forty cases of gestation into a tabular form. This table demonstrates the varying duration of pregnancy, and consequently the variable date of parturition and delivery in the human female, even when the date of impregnation is previously accurately established and known. The last column in the table presents in the per-centage form (as far as can be calculated from so small a number), the relative proportion delivered at different dates from the day on which conception occurred.

TABLE III.

Periods of Forty Deliveries in Human Mothers,—Impregnation being calculated from a Single Intercourse.

Weeks.	Days.	Total Number of Cases.	Per Centage.
38th	From 260th to 266th	5	12·50
39th	,, 267th to 273d	7	17·50
40th	,, 274th to 280th	18	45·00
41st	,, 281st to 287th	6	15·00
42d	,, 288th to 294th	4	10·00

"This table shows that in the human subject, and with the day of impregnation known, pregnancy in nearly one half, or in 45 per cent., extended from 274 to 280 days; that in 15 per cent. it was protracted from the 281st to the 287th day; and in 10 per cent.* it was prolonged from the 288th to the 294th day. Three only out of these 40 cases, or 1 in 13 were delivered on the 280th day of conception. Seven, or 1 in 6, were delivered on the 274th day.

"Admitting, then, the possibility of the occasional protraction of human gestation beyond its common normal period, another question has sometimes been asked, viz., What is the extreme limit of this protraction, or in other words, to how many days beyond the normal period of gestation is it *possible* for a woman to carry a child? I

* Perhaps this proportion is made larger than it should be, by some of the published cases which Dr. Reid has collated having been possibly recorded merely because they were marked instances of protraction.

confess that some of the late cases recorded, particularly by our American brethren, appear to me to be beyond the bounds of this possibility. Thus, Dr. Meigs of Philadelphia, has reported a case on 'facts' which he conceives to be 'trustworthy,' where a patient supposed herself pregnant in July, 1839, quickened on the 20th of November, had spurious labour pains on the 10th of April, but her child was not born till 'the 13th of September, 1840, about daylight;' the pregnancy thus, according to Dr. Meigs, having 'endured nearly fourteen months, or 420 days.'*

"Professor Atlee, of Philadelphia, has published two cases of protracted gestation occurring under his own observation. In the first of these, the patient lost her catamenia on March 22d, 1832,—quickened August 5th of the same year,—and was delivered with forceps March 22d, 1833. It was her fourth pregnancy. In Dr. Atlee's second case, the patient saw appearance of menstruation for the last time on August 6th, 1832,—quickened on December 25th,—but was not delivered till August 13th, 1833. Dr. Atlee, who states that he has not "the least doubt of the truthfulness of the evidence in the above cases," imagines, from the date of the quickening in each, that both mothers became pregnant shortly after their last catamenial periods, and that consequently, in both instances, the patient went pregnant nearly the entire circle of the calendar, or 365 days.†

"Without stopping to inquire as to the various sources of fallacy in these and similar observations, let me merely add, that I believe, our best criterion for fixing the "legal limit," or ultimate possible period of gestation in the human female, will be derived from careful and repeated observations upon the ultimate period of gestation in the cow; allowing always of the difference of four or five days of excess in the normal period of pregnancy in the cow, as compared with the human mother. Lord Spencer, in one instance found the period of gestation in the cow to extend to 313 days from the date of impregnation; and in one of his observations on the same animal, M. Tessier states, that parturition did not supervene till 321 days from the date of conception.

"Such direct experiments and observations upon the lower animals afford evidence, which necessarily, I think, forces us to admit, that in exceptional cases in the cow—and hence, also, as we certainly may fairly infer, in the human female—the period of gestation may be prolonged 30 or 35 days beyond its normal and usual duration. And it is not impossible that further accurate and repeated experiments of the nature of those performed by Lord Spencer and M. Tessier, may yet establish, by the same kind of proof, even a more extended limit as the *ultimum tempus pariendi.*

"Those obstetricians who maintain that the period of human gestation is a fixed period, and can never by any possibility exceed the fortieth week (as was sworn to by the five London accoucheurs who gave evidence in the Gardner peerage cause, and by the six medical practitioners who more lately gave similar evidence in an analogous

* Obstetrics, the Science and the Art, 1852, p. 230.

† Tucker's Elements of Midwifery, p. 149.

cause before the American Court at Lancaster), have none of them adduced any reason why the period of pregnancy should be thus stable and invariable, while all other periodic processes in the human body—as dentition, puberty, menstruation, the date of quickening, &c., are universally known and acknowledged to be apt to vary extremely. These obstetricians have offered no reasons, as far as I know, for holding that similar variations could not take place in the duration of pregnancy. Indeed, it would be against all analogies from other actions and processes in the animal kingdom to suppose that such variations did not occur in regard to the function of gestation."

2. Dr. Reid is also of opinion that the period of pregnancy is not altogether determinate. According to him—

The deviation is not to any great extent; the only *certain* data for calculating are those depending on the *known time of conception.*

The *average* duration of the pregnant state when calculated from this event, is about 275 days, or it may have a range from the 270th to the 280th day.

There is no satisfactory evidence of gestation having been prolonged beyond 293 days.

The code of Napoleon, which allows 300 days, and the Prussian law, which fixes the extreme limit at 301 days, may be regarded as liberal.

The *catamenial period* must generally serve as our guide in default of some exact knowledge. It is, however, often fallacious, and is only a means of approximation as to the probable time of parturition. The 40th week after the last appearance is the most likely period, and the 41st the next.

4. *Dr. Rae Menzies on a case of Pregnancy complicated with Carcinoma of the Uterus in which Gestation was prolonged to the 17th month* * —This case is one of great rarity and interest. Many cases are on record where gestation has been greatly prolonged, but these have been cases of extra-uterine pregnancy. One case there is in which the fœtus was retained in the womb for three months after the natural period, when it was expelled in fragments; but this is quite an exception. This was a case of cancerous disease of the os uteri and neighbouring parts; and there is reason to believe that there has been disease of this kind in several cases where the gestation has been unusually prolonged; but still statistics do not show that cancer has had this effect. It is an interesting fact, however, that there was a cancerous state of the os uteri and the lower part of the womb in Dr. Menzies' case, and that this is the only cause which can be assigned for the anomalous protraction of the pregnancy.

Towards the end of February, 1852, I was requested to visit Mrs. S——, residing in Provanmill-road. She was a tall spare woman, about 28 years of age, had been married five years, and was the mother of one child. She was of a somewl at sallow complexion, with black hair and eyes. She informed me that she expected her accouchement to take place very soon, and had thought indeed that it would have been past ere now. She complained of

* Glasgow Medical Journal, July, 1853.

an acute pain in the upper part of the left inguinal region, which had attacked her three days previously, had been constant since, was aggravated by every movement, and compelled her to maintain the supine posture. Its site was very tender to the touch, but free of swelling, and there was nothing observed in the general appearance of the abdomen different from what is usually present near the termination of pregnancy. The countenance was anxious; tongue dry and covered with a thin white fur; pulse 104; skin warm and dry; bowels confined.

Leeches were applied to the painful spot, and followed by a terebinthinate epithem; while five grains of calomel, succeeded by castor oil and tincture of hyoscyamus, were administered internally. Next day she was considerably improved; the epithem was repeated, and two days afterwards she was left with instructions to attend to the state of the bowels, and to make as little exertion as possible.

I heard no more of my patient until the end of March, when I received a message that she was in labour. I found her in bed complaining of intermittent pains, commencing in the centre of the abdomen, extending to the back, and thence towards the hypogastrium. They had begun nearly twenty hours before, but had not been frequent. The uterine tumour was very prominent, giving a broad flattened appearance to her sides, very firm to the touch; it did not become firmer during the pains. It still reached to the epigastrium, although it had apparently prolapsed somewhat since my previous attendance. The os uteri was quite closed, its anterior and posterior labia being firm and uninfluenced by the action of the pains. The vagina was moist and cool. The countenance betrayed considerable anxiety; the pulse was frequent and rather weak, and the tongue furred. She was ordered some oil, which acted before I called in the evening, but no progress was made in the labour, nor were matters more promising next morning. Being doubtful of her calculation regarding the duration of her pregnancy, I made more minute inquiry, and ascertained the following particulars.

About the end of April or beginning of May, 1851, while nursing her former child, a fine boy then twelve months old, she menstruated for the first time since she had become pregnant of him, and a month afterwards weaned him without the return of the menses. She had miscarried before the conception of this child. During her present pregnancy she had remarked nothing unusual until the middle of February, at which period she observed that the motions of the child, which had been much more turbulent than in the former pregnancy, ceased altogether to annoy her; that there was a sense of weight and coldness in the abdomen, and that the breasts, which had previously been large and plump, became small and flaccid. She was not certain when she *first* felt the fœtal movements, but was quite sure they were present in October, 1851.

The abdominal tumour was very prominent, and of a well-defined ovoid form; firm, though fluctuating; when undisturbed, situated exactly in the median line, but readily admitting of lateral movement. From all parts of it, percussion elicited a dull sound. Auscultation, carefully repeated on several successive days, and subsequently at longer intervals, failed to detect either the placental *souffle*, or the sounds of the fœtal heart's action. Per vaginam, the uterus and its contents felt firm and elastic. An attempt to discover the fœtal head through its anterior wall was unsuccessful. The urine was passed with ease, but the bowels were still inclined to constipation, and defæcation was performed with pain and difficulty. The breasts were flaccid and destitute of milk, the areola around the nipple was, however, well marked and studded with numerous enlarged papillæ. She had been the subject of

dyspepsia for many years, and now the stomach was very irritable, and the anorexia complete.

The abdominal and dorsal pains had been more severe and frequent during the night, and continued throughout the day, without any effect on the os uteri, although the lower part of that organ descended under their action a little farther into the pelvis. A sedative was administered at bed-time, with the effect of procuring her some refreshing sleep during the night. In the morning the pains again increased, and as the gastric irritation was now much relieved, and her strength somewhat improved, I resolved to try small and frequently-repeated doses of tartrate of antimony. To aid this remedy in relaxing the genital passages, fomentations, previously ordered to be applied to the vulva, were continued, and a large emollient enema administered. The antimony produced considerable general relaxation, but had no effect on the os uteri. During the succeeding night there was little change; and on the evening of the next day, the fourth of my present attendance, she was so much exhausted that it was necessary to repeat the anodyne. The exact duration of her pregnancy being still not fully determined, I did not consider it proper to adopt any other measures at that time with the view of hastening delivery; and, as her general condition had begun to improve, while the pains, which had never been strong, gradually became less frequent, I resolved to wait until labour should set in more energetically.

From that time till near the end of April, the local and constitutional irritation continued to diminish; but in the latter part of that month the pains became again more active, and accompanied with a greater feeling of bearing down. The uterus too, descended farther into the pelvic cavity, but examination of its os convinced me, that it still possessed an equal, if not greater, amount of hardness and resistance. Its margins were, however, a little more apart, and allowed the point of the finger to be introduced about a third of an inch into the intervening fissure. A female catheter was introduced more than an inch backwards and upwards, without the discharge of the liquor amnii, and with the loss of only a few drops of blood. I now determined to attempt the dilatation of the os with sponge tents, and accordingly introduced a very narrow one a short distance next day. About five hours after its insertion, there was a sudden discharge of nearly twelve ounces of blood; and, on examination, I discovered a nodulated flattened mass of semi-cartilaginous density, overlapping the anterior margin of the os. I feared this might be the placenta rendered unusnally dense and firm by some morbid process. The vagina was plugged, and cold applied to the vulva. The bleeding soon ceased, but the pains, which continued considerable for two days longer, produced no effect upon the os.

I now asked Dr. James Paterson, Professor of Midwifery in Anderson's University, to see my patient. He was of opinion that the small flat mass, attached to the upper surface of the os, was more probably a foreign growth or tumour than a diseased placenta. The complexion of the patient, which had now assumed a more dusky sallow tint, and her general debility, gave probability to the existence of malignant disease. He advised that, as the fœtus was evidently dead, I should wait as long as no symptoms of immediate danger arose, and be content with sustaining her strength by tonics and nourishing food, and procuring rest by occasional anodynes.

About a week afterwards, an attentive examination convinced me that the cervix uteri had not been completely obliterated; that the finger had never penetrated farther than the small portion of its cavity remaining; and that what resembled a diseased placenta was the anterior margin of its internal orifice, thickened, hardened, and tuberculated by an interstitial deposit.

There was no vaginal discharge, no fetor, and I could feel nothing like an ulcerated surface. No examination with the speculum was at that time permitted.

Digestion being much impaired, with great tendency to acidity, carbonate of ammonia was given in infusion of columba, and the bowels regulated by an occasional pill. Still her digestive organs remained weak and irritable, and she gradually lost flesh and strength. She frequently had tenderness of the epigastrium and other regions of the abdomen, which was generally removed by sinapisms or terebinthinate applications.

At that time the uterine action had in a great measure subsided. During the next five months it suffered augmentation at irregular intervals, but never attained the strength it had previously possessed. The pains were present every day, becoming aggravated towards evening, and frequently causing the patient to take a nocturnal dose of morphia and conium. They gradually became of a more mixed character; lancinating pains shooting from the hypogastrium to the sacrum, and others travelling in the course of the crural and sciatic nerves, being added to those of a bearing-down nature. For two months prior to the termination of her illness, she complained of a constant feeling of weakness, heat, and dragging pain in the loins, which rendered her incapable of remaining long in the sedentary posture.

The uterine tumour gradually receded from the epigastrium, and became smaller, firmer, and less fluctuating. Its resistance became unequal, apparently from the more prominent members of the fœtus being pressed against the uterine walls. It continued slowly and almost imperceptibly to descend in the pelvis, until the os was within an inch of the perinæum, yet there was little inconvenience felt in passing urine. Defæcation, however, was long difficult, and painful. The breasts, which had been so flaccid and destitute of their life-supporting fluid, became, in the month of June, somewhat more plump, and resumed their secernent function to such an extent during the remainder of her illness, as to keep her linen constantly wet with the milk they spontaneously discharged.

On the 3d of November, I received a message to visit her. Being unwell, my friend, Mr. M'Gill, went in my stead. He found her suffering from symptoms of subacute peritonitis. She complained of great pain and tenderness in the upper part of the abdomen. There was much thirst and vomiting; the bowels had not been moved for some days; the pulse was rapid, and the skin hot and dry. With the aid of leeches, turpentine epithems, enemata, mercurials and sedative anodynes, these symptoms were relieved; but they soon returned, and she sank on the 17th of the month.

During the attack of peritonitis, Dr. Paterson again saw her with Mr. M'Gill, and on that occasion examined the condition of the uterus, I believe, with both the speculum and sound. With the former no ulceration was discovered; and the latter was passed an inch and a half through the os. He expressed doubts of the existence of a fœtus in the womb, considered the condition of the woman hopeless, and that no operative interference could be of any service.

Being from home when she died, the only time left for the post-mortem examination was an hour prior to that appointed for the interment of the body; and from being myself unwell, and unable, though present, to assist Mr. M'Gill, it was unfortunately hurried and imperfect.

The body appeared well formed, but much emaciated. On incising the abdominal parietes a considerable quantity of gas escaped, and about eight ounces of serum, turbid with flocculi of lymph, were found in the peritoneal cavity. The peritoneum was deeply congested and roughened with numerous

minute patches of lymph. The inflammation had extended over the whole of the peritonæum, but had evidently been most intense where it covers the fundus uteri, as evinced by the deeper shade of the injection, and the thicker coating of lymph found there. A vertical incision into the anterior wall of that organ, gave exit to a small quantity of excessively fetid gas, and disclosed the head and shoulders of a fœtus, the breech of which was contained in the lower part of the viscus that lay in the true pelvis. The child was closely embraced by the walls of the uterus; the liquor amnii having been so much absorbed that it came into immediate relation with them; and the vertex was so flattened, by the action of the muscular fibres of the fundus, that it conferred a cuboid form on the whole cranium. The fœtus was a well-formed male, that had apparently arrived at or near to maturity. Its hair and nails were quite perfect. It had undergone no decomposition; the skin, with its firmly-adhering cuticle, being seen of a perfectly normal colour, when freed of the large quantity of smegma and debris of the liquor amnii with which it was covered. The umbilical cord seemed to have been quite healthy, though now tinged with the green hue of commencing putrefaction. The placenta, which was easily detached from the upper part of the left uterine wall, was deeply injected, and of a much denser consistence than usual. It contained no coagula, was circular in form, and was bounded by an abrupt edge, as completely deprived of its membranes as if they had been carefully removed with the scalpel. The involucra appeared to have been entirely absorbed, with the exception of some debris, which assisted in thickening the small quantity of fluid that remained in the uterus.

This liquid, in quantity about ten ounces, was thick and very turbid, of a dirty yellowish-brown colour, and abominably fetid. The internal surface of the uterus presented its mucous lining uncovered by any other tissue, much softened, and its capillaries and veins deeply injected with dark-coloured blood. For the purpose of examining the condition of this organ more minutely, Mr. M'Gill removed it and the upper part of the vagina from the adjacent structures. Its orifice barely admitted a goose-quill, and was filled with a thick soft matter which had prevented the escape of the fluid from its cavity. The circumference of this internal orifice consisted of a remarkably firm and tough ring, as hard as cartilage, thicker in its anterior than in its posterior half, of a pale bluish-white colour, and offering great resistance to the knife. The same dense tissue extended continuously through the lower fourth of the body of the organ, gradually diminishing in thickness as it ascended. It was continued as far as the upper fourth, in patches infiltrated into the muscular and areolar tissues, rendering the walls very unequal, both in thickness and consistence. In the lower fourth the muscular fibres were so much atrophied that they were scarcely discernible. In the middle half they were much more evident; while in the fundus they were abundant and communicated to it a much deeper tint. Under strong pressure, a segment of the dense tissue yielded a small quantity of opalescent fluid, which the microscope showed to contain a quantity of granular matter, and a few nucleated and granular cells of irregular shape, some being nearly spherical, while others were caudate or fusiform. None of the other viscera were examined.

In reviewing the history of this case, it must be evident that the woman's own computation of the period of conception, viz. May, 1851—her certainty of having felt the turbulent movements of the child in October of the same year—the simultaneous cessation of these, of the growth of the abdomen, and of the mammary secretion in February, 1852—the more positive stethoscopic evidence of the fœtus obtained in the end of March—the gradual decrease in

the size of the abdomen afterwards, and the presence of a full-grown child in the uterus, seven and a-half months after the stethoscopic examination, incontestably prove that she had attained the middle of the seventeenth month of pregnancy at least, although it is more probable that she was in the eighteenth.

5. *Dr. Eisenmenger on Charcoal Injections in putrid conditions of the Uterus.**—The suggestion contained in the following case seems well worthy of the attention of obstetricians. The need is too urgent in all such cases, and the means are too limited, not to make any new suggestion a matter of serious importance, particularly when that new suggestion has about it an air of great probability.

Case.—A lady, æt. 42, the mother of nine children, was confined prematurely of a dead child on the 1st of July, 1853, a portion of the placenta remaining adherent. Except an attack or two of slight flooding, all went on well until the 19th, when the lochial discharge became very offensive, and when very serious typhoid symptoms set in abruptly. Quinine and repeated charcoal injections were ordered. On the 21st the symptoms had greatly abated, but the discharge was still very fetid. On the 22d the patient had passed the crisis, and all the symptoms had become changed for the better. From this time the recovery went on rapidly. Warm water injections were practised a short time after the charcoal injections to bring away the gritty particles.

6. *Dr. Borchman (of Landnshut) on the treatment of Croup by iced applications to the neck.*†—Dr. Borchman proposes to employ this mode of treatment instead of leeches in the early stages of croup, and the proposition seems to be one of considerable value. Three illustrative cases are related. In one of these—that of Dr. Borchman's own son, aged two years—there was some slight diptheritic exudation on the tonsils, but not in the other two ; still there is little reason to doubt that the three were cases of true croup.

The abstract from which we learn these facts is not very copious, but from it, it appears that in the first case in which this treatment was tried, the little patient had had two violent paroxysms of cough, and that the head was hot, and the deglutition difficult. A linen handkerchief folded as a cravat was dipped in iced water, and wrapped round the neck, a small bladder containing fragments of ice was applied on each side of the neck, the limbs at the same time being wrapped in warm flannel, and kept warm by bottles full of hot water. These applications were renewed every half hour. Immediately after the first application, the heat of head, the agitation and distress diminished, the cough ceased, and the patient fell asleep. The same treatment was persevered in from 3 a.m. to 8 p.m., when the bladders of ice were discontinued. The next day the child seemed to be quite well, but, notwithstanding this, the treatment was persevered in until the end of the day following, the cravat being wetted at more distant intervals.

The result was the same in the other two cases, the relief being equally immediate and effectual.

* Gaz. Méd. de Paris, Aug. 27, 1834 ; Deutche Klinik, 1853.

† Gaz. Méd. de Paris, Sept. 17, 1853, from the Journal für Kinderkrankheiten.

7. *Dr. Archambault on Paracentesis Thoracis in Children.**—In an inaugural thesis presented to the University of Paris during the past year, Dr. Archambault relates some instructive cases of this kind, which occurred in the practice of M. Trousseau, at the Hôpital des Enfans Malades.

Case 1.—*Excessive pleuritic effusion, dating from eight days; operation; cure.*—The patient, a little boy, æt. 4 years, had been ill eight days. The illness began with dry cough, oppressed breathing, and slight fever, but without any shivering or pain in the side. When admitted (January 6th, 1852) the breathing was laborious, and 70 in the minute; the pulse 120, and small, the left side of the chest prominent, not taking any part in the respiration, and everywhere dull on percussion, and without respiratory sounds, except immediately underneath the clavicle. The spleen was pushed considerably below the level of the false ribs, and the heart very much to the right of its proper position. The right side of the chest was healthy.

The day following, the respiration being more laborious, the surface dusky and cool, and asphyxia imminent, paracentesis thoracis was performed, under the sanction of MM. Trousseau, Blache, and Guersant, when a *litre* of yellowish transparent fluid was evacuated. Immediately afterwards, the respiration became less frequent, the sound on percussion clear, the respiratory murmur audible, and the heart returned to its proper place.

On the 9th, the effusion returned to some extent, and a diuretic mixture with digitalis was ordered. On the day following there was vomiting and much depression, but the dulness diminished.

From the 12th to the 30th the patient progressed favorably, until the lung had recovered its healthy action, and all pleural rubbing had disappeared. Convalescence was retarded by a severe attack of measles, but in the end the child got perfectly well.

Case 2.—*Excessive sero-purulent effusion; operation; death.*—The patient was a little boy, aged two years, whose previous history was not ascertainable. When admitted into the hospital he was in a state of imminent asphyxia; the face pale, the pulse small and excessively frequent, the respiration 68 in the minute. The left side of the chest was dilated, dull on percussion, and devoid of any kind of respiratory sound or vibration. The heart beat on the right side of the sternum. The left lung exhibited the signs of great congestion.

Paracentesis thoracis was performed on the 4th of June, 1852, at 11 a.m., and 420 grammes of sero-purulent liquid evacuated. Ten minutes afterwards the symptoms were ameliorated in a marked manner, particularly the restlessness and anxiety. A loud *râle* became audible throughout the left side. Still the respiration continued at 50—54, and the pulsation at 132 in the minute.

Between the 5th and 8th, the improvement continued, the respiration falling to 44, and the pulsation to 120 in the minute.

On the 10th a relapse took place, the effusion became reproduced, and death took place on the 13th.

After death 300 grammes of sero-purulent flaky fluid were found in the left pleura, which pleura was everywhere covered with a thick, flocculent, false membrane. The two inferior thirds of the corresponding lung were carnified, and compressed against the vertebral column; the upper third and the other lung were congested and hepatised in several patches.

A third case is mentioned, of which no further particulars are given, than that the patient was a child, aged twelve years, who had laboured under hydrothorax for fifteen days, and who was cured by the operation.

* Archiv Gén. de Méd., Juillet, 1853.

IV.

REPORT ON PSYCHOLOGICAL MEDICINE.

By R. F. Foote, M.D.,

Resident Physician to the Norfolk County Lunatic Asylum.

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§ I. *On the Present State of Lunacy and Lunatic Asylums.*
- *a.* In England and Wales.
- *b.* In Ireland.
- *c.* In France.
- *d.* In America.
- *e.* In Scotland.

§ II. *Statistics.*

§ III. *General Hygienic Conditions during the Treatment.*
- *a.* Healthiness of Locality in which Asylum is situate.—Internal Arrangements of the Building.
- *b.* Internal Government and Economy.
- *c.* Dietary.
- *d.* Occupation and Amusement.

§ IV. *Medical Treatment.*
- *a.* Pharmaceutic.
- *b.* Moral.
- *c.* Religious Instruction.

§ V. *Pathology.*

§ VI. *Judicial Insanity.*

The subject of psychology, so long veiled in darkness and mystery, appears to be daily rendered more clear and definite, and the proper treatment of the insane is, in consequence, gradually becoming precise and satisfactory, and thus some encouragement is given to follow and discover anything calculated to throw light on mental diseases.

It is with these sentiments that we are induced to continue our reports on lunacy, being certain that our efforts will be valued for what little worth they possess, our intention being simply to lay before our readers the experience of those whose daily and hourly study it is to direct the medico-moral treatment of the insane, including

their diet, exercise, clothing, employment, medication, and religious exercises.

From the days of Pinel and Esquirol to those of Gardiner Hill, Conolly, and Gaskell, the *vexata quæstio* of the proper care and treatment of the insane has been one of great anxiety to those who have taken the speciality of psychology as a branch of the profession, to which their attention is peculiarly directed. In this inquiry the medical profession has had to contend with innumerable difficulties; old prejudices, vested interests, practises grown sacred by time, and venerated from their antiquity, have continually stood in the way of progress. Every step forward has been looked on by most non-medical men as an encroachment on the power, rights, and privileges of a class.

The past year has, however, been more than usually cheering, it has effected a change in one of the oldest asylums in this country, and introduced a physician as sole director, a point, in our opinion, full of promise.

For years the civic authorities prided themselves on their skill and ability in the management of an asylum; they opposed the visits of the Commissioners in Lunacy because Bethlem was the best conducted institution in this country; but a change has been effected in the law of lunacy, rendering Bethlem Hospital liable to the inspection of the Commissioners of Lunacy, which cannot fail to be attended with the same results as their visits to other institutions.

§ I. ON THE PRESENT STATE OF LUNACY AND LUNATIC ASYLUMS.

a. England and Wales.

1. *New Asylum's opened.*—The latest official document printed on the 5th April, 1853, by the Commissioners in Lunacy for England and Wales, was presented to the Lord Chancellor, 30th June, 1852. From it we learn that, during the previous twelve months, "Four new County Asylums had been completed and opened for the reception of Patients, viz. (1,) For the county of Derby, at Mickleover; (2,) An additional Asylum for the county of Middlesex, at Colney Hatch; (3,) For the united counties of Monmouth Hereford, Brecon, and Radnor, at Abergavenny; and for the county of Wilts, at Devizes."

It is also stated that "The following County Asylums are also far advanced towards completion, and are likely to be opened for the reception of patients before the close of the year, viz., Warwick, Worcester, Lincoln, Hants, and Bucks."

The whole of the Asylums last named are now in active operation, the medical superintendents having been appointed, as suggested by the Commissioners, before the buildings were opened for the reception of patients.

2. *Quantity of land attached to the New Asylums.*—From data obtained by Dr. Thurnam, it appears that the thirty-one Lunatic Asylums, built to contain 11,908 patients, have attached to them 1,388 acres of land, or somewhat more than one acre to every nine patients.

Ten new County Asylums lately built to contain 4,046 patients, have attached to them 632 acres of land, or one acre to 6·4 patients. Since many Asylums are supplied with all articles of consumption from the land of the Institution, which is entirely cultivated by patients, with the aid of a

few paid workmen. The occupation of spade husbandry may be considered as salubrious to the health of the insane, but becomes an item by no means inconsiderable, placed to the credit of the institution, hence most of the model Asylums have every accommodation for the management of a farm of 50 acres and upwards; a farm house and appurtenances are provided for the keeping of cows to supply the institution with milk, butter, pork, &c.

Thus, in the new Asylums mentioned, the quantity of land in total extent belonging to or in occupation is as follows, as stated by the Commissioners in Lunacy.

Name of Lunatic Asylum.	Quantity of Land.	Number of Patients to be accommodated.
Derby, Co.	78 acres.	300
Middlesex at Colney Hatch	129¼ „	1258
Monmouth at Abergavenny	34 „	220
Wilts, Co.	45 „	280
Warwick Co.	41 „	334
Worcester Co.	45 „	188
Hants Co.	105 „	400
Bucks Co.	20 „	200

The Asylum for the North and East Riding of Yorkshire, which is capable of accommodating 320 patients, has 88 acres of land in the occupation of the Asylum, 30 acres of which is cultivated by spade husbandry. The Lancaster Asylum, at Rainhill, which was opened in January 1851, to accommodate 410 patients, has 48 acres. The Asylum at Prestwich, having accommodation for 456 patients, has 43 acres of land belonging to it.

Much inconvenience has been felt in those Asylums where the quantity of land is small or inadequate to the accommodation of the patients; in the Norfolk County Asylum the visiting Justices have lately purchased 30 acres of land, the want of which has been for a long time very much felt. The Royal Military Asylum at Yarmouth, (formerly barracks for the militia) from its situation and from the nature of the soil on which it is built, has no land for the employment of the inmates; the cures hence must be few. It is to be hoped however, that the Government authorities will find a salubrious spot on which they may erect a *hospital* for the cure of our brave soldiers, who may be afflicted with mental desease, and not detain them within the walls of such a prison-like establishment; although the resident medical officers appear fully alive to the enlightened treatment of the insane, and use their efforts to promote the health and comforts of the inmates, yet it would be impossible to make it what it should be—*a model institution.*

3. *Increased accommodation in Asylums in* 1850-51.—From the report of the Commissioners in Lunacy published June 1850, it appears that there were, in county and borough lunatic Asylums and Hospitals, 7251 paupers, and 1097 private patients. In addition, there were confined in licensed houses 1557 private patients, and 3786 paupers. Since that time important additions have been made to many Asylums already built, and new Asylums have been erected in those counties which had no such accommodation. The most important event in the history of Asylums during the year ending July 1851, was the opening of two additional Asylums in Lancashire, so that ample provision is made for many years to come for the lunatic poor of Lancashire.

4. *Size of County Asylums and their improvements.*—From the report of

the Commissioners in Lunacy for 1845, it would appear that the most advantageous size for an Asylum is that which holds between 200 and 300 patients, and on examination it appears that scarcely any new county Asylum much exceeds this size.

The new Middlesex Asylum at Colney Hatch, has at present within its walls no less than 1300 individuals, and would appear to be far too large to be properly managed.

The new county Asylums are built some very plain in style of architecture, others very Elizabethan, in each instance the prison-like aspect of our older institutions being abolished, high walls are now avoided, and every means which will promote cheerfulness of appearance, both within and without these national establishments, is much studied by the medical officers attached to them, whose efforts are in most cases well assisted by the managers, the visiting Justices.

In the internal arrangement, the chief point now-a-days seems to be to make an Asylum as much as possible a hospital for the cure of those mentally afflicted. The medical treatment is varied and rational; the medicines are not alone the drugs of the Pharmacopœia, but other remedies of equal importance; the classification, viz. employment and amusement, of the insane; and the influences, embraced under the term *moral treatment* which Dr. Forbes Winslow says, requires far more profound scientific and practical skill in the higher departments of medicine, than does the mere administration of the remedies of the Pharmacopœia. Hence restraint of all kind is generally abolished, intellectual pursuits are encouraged, habits of cleanliness, order, and self control are studied, the conversation, manners, and *morale*, of the attendants are carefully and jealously watched; pleasant airing grounds, for exercise, are laid out with flower beds, and in-door occupations and amusements, after the labour of the day is complete, are provided for the patients.

The diet, clothing, bedding, &c., of the patients are constantly noticed, and the proper and moderate exercise of religious instruction must not pass unobserved.

We have always entertained an idea of the great advantage of music as an amusement for the insane; it is innocent, cheerful, and soothing; there is scarcely an individual who is not benefited by appropriate music; and a good and substantial band may be looked upon as a great desideratum in a lunatic asylum.

5. *Number of Patients and their distribution.*—The total number of private patients on the 1st of June, 1851, in asylums, hospitals, and licensed houses, was 4397; viz., in England and Wales.

	Males.	Females.	Total.
In Asylums	120	112	232
Hospitals	458	462	920
Metropolitan Licensed Houses .	566	558	1124
Provincial Licensed Houses .	788	727	1515
Bethlem Hospital . . .	196	183	379
Royal Naval Hospital, Haslar .	133	—	133
Military Lunatic Hospital, Great Yarmouth . . .	90	4	94

From the Report of the Commissioners it appears that provisions have been made for the erection of County Asylums, where such are not yet built, in every county except Cumberland, Durham, Northampton, Sussex, and Westmoreland.

b. Ireland.

6. *General condition of Irish Asylums.*—In the Fifth General Report of the Inspectors of Asylums in Ireland, it appears that the general arrangements and domestic economy of those institutions is satisfactory. The Inspectors remark, "Constant in our visitations of them, we invariably observe the utmost kindness of manner and considerate attention on the part of the physicians and superior officers to the various inmates, while the attachment of the lunaties themselves to their immediate attendants affords a satisfactory proof that the latter fulfil their duties with humanity, good temper, and forbearance,—moral powers for which mechanical coercion will be ever found from experience both a harsh and inefficient substitute.

7. *Number of Lunatics in Ireland.*—On an analysis from returns collected by us of all the individuals in Ireland who labour under mental aberration in its endless diversity of aspect and variety of symptoms, from simple imbecility to the lowest grade of congenital idiocy, on the one hand, and from moral insanity, with its comparative clearness of intellect to raving madness, on the other, they may be thus enumerated:

1. In Public and Local Asylums	2913
2. In Gaols, committed as dangerous, 1 Vic. cap. 27 . .	280
3. In Central Asylums, Dundrum, 8 & 9 Vic. cap 57 . .	91
4. In Poor Houses	2393
5. In Private Asylums, 5 & 6 Vic. cap. 123 . . .	436
6. Abroad, unprovided for in public institutions, but some supported by their friends	8985

Making a total of 15,000 human beings afflicted to a greater or less extent with a disease the most serious to which mankind is liable.

Fully a third of the cases of insanity we meet with are directly connected with a family predisposition to the disease, and it not unfrequently occurs to us to discover six or seven relatives in close consanguinity affected by it at the same time.

The annexed Table gives a general resumé of the unaccommodated insane.

Idiots.		Epileptic Imbeciles.		Lunatics.	
Male . .	1990	Male . .	1644	Male . . .	452
Female . .	1684	Female . .	2736	Female . .	479
Total . .	3674	Total . .	4380	Total . . .	931

Adopting the same classification for the 2393 deranged inmates of union and auxiliary workhouses, we find the number thus circumstanced.

Idiots.		Epileptic Imbeciles.		Lunatics.	
Male . . .	471	Male . . .	350	Male . . .	77
Female . .	645	Female . .	739	Female . .	111
Total . .	1116	Total . .	1089	Total . . .	188

8. *Condition of State Lunatics, and their number.* — The condition of the insane in the Irish Criminal Asylum at Dundrum appears very satisfactory. They are well conducted, and as tranquil as any other class in the community. The great majority of the men are employed on the farm, which is surrounded by a wall not more on an average than six feet in height, with a partial slope at the inner side having a park-like appearance; whilst others who had previous trades are occupied in the workshop; the females for the most part are engaged in the laundry, at needlework, or knitting.

The sanitary condition of the establishment has as yet been satisfactory.

No mechanical coercion is used; the nearest approach to it being front-straps for fixing epileptics steadily in their chairs. "The attendants who, generally speaking, were selected for their good conduct elsewhere, being held answerable for the comfort and safety of the patients." A small annual increase of wages being dependent on their efficiency and good conduct, they have additional inducement to be attentive to their duty.

From the Report of the Inspectors of Irish Asylums it appears "that the cost of the staff is considerably greater in this than in ordinary lunatic establishments. In the total absence of mechanical restraint or coercion of any kind, a full number of attendants is indispensable for the safe custody of the particular classes confined there."

The whole number, 31st of March, 1853, was 109, of whom 69 are males and 40 females; the offences were, homicides 52, violent assaults 27, burglary, arson, and felony, 30. The mental condition was, 13 recovered, 17 improved, and 79 insane.

c.—France.

9. *Internal Arrangement.*—Dr. Webster, in some valuable notes, published in the 'Psychological Journal,' has afforded much information respecting the hospitals for the insane in France, and the mode of treatment adopted in those institutions. We should advise our readers who wish to become acquainted with the internal economy and management of those asylums, to carefully peruse the account of Dr. Webster.

"On many points," he says, "English physicians—interested in the management of asylums, and the treatment of lunatics—may derive improvement, as also knowledge, from their brethren, *d'outre-mer;*" although the latter would equally benefit by adopting some of the principles guiding psychological practitioners in this country. In France Pinel first pointed the way, Esquirol then directed public opinion; whilst in England, Gardiner Hill, Conolly, and other distinguished men followed; nay, have even surpassed former advocates of the new system."

10. *Personal restraint common in Foreign Asylums.* — "Indubitably more personal coercion prevails when treating lunatics throughout foreign countries than in Great Britain, but every year further progress is made in the right direction."

11. *Comparison between Old and New Asylums.*—In conclusion, Dr. Webster says, "Having now brought to a close my rather lengthened report on the respective asylums inspected during last autumn, before considering the facts obtained at the different institutions, in the aggregate, I would make one preliminary remark, that several of those which have been only recently constructed, were, if compared with others, built at an earlier period, of a very superior description. This opinion applies especially to Châlons, Auxerre, Dijon, and Stéphansfeld, as also to Illnau. Considered as a whole, in reference

to structure and internal arrangements, Stéphansfeld was, however, superior to all others, according to my judgment; although the new dormitories at Châlons appeared certainly of better description than similar apartments elsewhere.

"At Auxerre, the female division is excellent, and when the proposed new buildings are completed, that asylum, I feel confident, will then becomc one of the best in all France, from its superior accommodation.

"The exterior of Illnau, and the judicious arrangements of its various court-yards, deserve much praise; but internally it must yield the palm to Stéphansfeld and Auxerre.

"Again, Dijon and Auxerre possess great advantages, in having an ample supply of water in each court-yard; whilst at the first named institution, it is even conducted by pipes to the different dormitories.

"The important benefits consequent upon always possessing an abundance of water in every receptacle for lunatics, are so universally acknowledged, that visitors will admit these two asylums should be held up as models for others to imitate, if unable to surpass them both, in respect of the most essential element in populous establishments.

"Although the asylums enumerated in the previous paragraph were considered superior to many others in respect of their physical capabilities taken altogether; nevertheless, in one or two points, several of the other lunatic institutions are indubitably excellent, and deserve commendation. For instance, the dormitory and really beautiful garden, for dirty female patients, at Maréville, surpassed anything of the kind observed in other asylums; whilst some of the court-yards at Clermont appeared more open, spacious, and better adapted for their specific purpose than similar enclosurcs in several other localities.

"Jains was truly *fair*, and its gardens beautiful: but Armentières certainly could not be put in comparison with any, being much inferior; whilst Lille, notwithstanding the zeal and attention of various officers, seemed totally unfit for the purpose of an asylum; not only on account of many irremediable inherent defects, but from its objectionable situation. These evils have been recently rendered much worse than before, by the new station of the northern railway, whereby incessant disturbance and confusion prevails in the streets, which bound three sides of that asylum.

"'All this the lunatics hear, at the same time their screams and the agitation incident to 335 noisy female lunatics may be frequently recognised by crowds of passengers.

"Comparisons often appear odious, but justice to all parties must rise superior to such considerations; therefore, when placing Lille at the bottom of any comparative scale, and Stéphansfeld on the pinnacle, it ought to be always remembered the former was anciently a religious house; whereas the latter is a new asylum, built expressly for the reception of insane persons."

d.—America.

12. *Several Eminent Physicians Deceased.* — The 20th number of the 'Psychological Journal' contains an article from the pen of Dr. Pliny Earle, a distinguished American psychologist, "on the present state of the principal asylums for the insane, in the United States of America." "The medical superintendents of several of the institutions have been changed. No less than three of the physicians who had become the most distinguished in this speciality of the profession are deceased."

13. *Number of Lunatics increased.*—The aggregate number collected into the hospitals has very considerably increased; and finally a large amount of information has been accumulated.

In the summer of 1850, Dr. M'Farland, of the New Hampshire Asylum, visited about twenty of the institutions for the insane in England, Scotland, France, and Italy, and the remarks he makes are embodied in his report—"A visitor," says he, "to the English or French hospitals, is immediately struck with the great evident cost of many of them, compared with the number they are intended to receive.

"This is no test, however, of their excellence, which, architecturally considered, lies in their spaciousness, the altitude of their ceilings, and the strict attention paid to the details of heating and ventilation. The gloomy interior of most of the American asylums, where the light must be excluded by a mischievous and false economy, finds no parallel in Europe, save in the extremely old institutions of the North, or those of Catholic countries, where an asylum is most frequently a suppressed monastery.

14. *American and other Asylums compared.*—We (Americans) do not suffer in comparison of Institutions. Indeed there is much need of self-gratulation. Our institutions are better organised; and, if our edifices for the reception of lunatics be not so spacious, we are already alive to their deficiencies, so that there is no obstinate adherence to exploded designs. We have no evils to anticipate, like those which hang their weight upon the charities of communities, who, in a thousand other ways, are now paying the debts imposed by the usages of barbarous times."

Dr. Bell, of the M'Lean Asylum, observes: As the communities called to provide for the insane advance in familiarity with this duty, and in means to meet it, the fatal error of *cheap* institutions will cease to exist, an error involving not merely the negative objection of leaving the presumptive ends of hospital treatment unfulfilled, but the positive hazard of accidents, comprising not only the institution immediately concerned, but the usefulness and reputation of the whole class. It would be a happy conviction upon the minds of legislators and communities, could they be persuaded that, between no provision at all of a public kind for the insane, and a parsimonious, stinted, and inefficient imitation of a real provision, the former evil is infinitely the least.

The article of Dr. Earle is very interesting, and contains much valuable information; our space, however, will not permit us to proceed further.

e. Scotland.

15. *Humane System of Management.*—The asylums in Scotland are, we believe, in no way inferior to institutions of a similar character in any other country, and the Annual Reports of the Medical Officers are full of interesting particulars to the Psychologist. They all "recognise the fact that when an individual crosses the threshold of an asylum, he does not necessarily surrender all freedom of action, nor is he expected to renounce all the tastes and habits which have ministered to his happiness in other days.

His freedom and his pleasure are curtailed only in that precise measure which is imperatively demanded as essential to safety or cure."

Dr. Winget, of Dundee, says, "the main principles of the regime have been established for many years; and the efforts of every succeeding year have been directed to their more complete and extended application."

"There has been an entire disuse of all articles for mechanically restraining the limbs of patients; and every available and justifiable method has been adopted for making the contrast between the customs and amenities of ordinary society, and the discipline established, as narrow and as little irksome as

possible. The régime has been examined by the present illustrious chairman of the Lunacy Commission in England, the Earl of Shaftesbury, who expressed his approbation of what he characterised as the 'humane system' pursued."

We believe that this may be said of all the Asylums for the insane in our sister country.

§ II. STATISTICS.

16. *Number of Insane Paupers in England and Wales.*—According to the return made by the Poor-law Board, we are informed that on the 1st of January, 1852, there were in England and Wales 21,158 insane and idiotic paupers. (See TABLE I, next page.) Of the ages there were

From 5 to 10	52
„ 10 to 20	984
„ 20 to 30	3662
„ 30 to 40	4866
„ 40 to 50	4593
„ 50 to 60	3397
„ 60 to 70	2038
„ 70 and above	919
unknown	641

Of this number, 5998 were dangerous to themselves or others, and 2602 of dirty habits.

17. *Comparative numbers in County Asylums, &c.*—Of those confined in county establishments 4278 were males, and 5134 females; in licensed houses 1177 were males, and 1407 females, thus leaving a very large number in Union houses or with their friends. The proportion of the insane to the number of the population varied considerably in different counties; thus, in Montgomeryshire there were 1 in 552 of the inhabitants insane or idiotic; in Oxfordshire 1 in 533; whilst in Durham there appears to be only 1 in 1650 paupers insane. On the 1st of January, 1851, there were 4397 private patients in public or private asylums in addition. Of the whole number of paupers there were 5679 males, and 7380 females insane; and 3842 males, and 4257 females idiotic. In England, with a population of 16,921,888, with 19,825 insane and idiotic, or the proportion to the population was 1 to 854. In Wales, having a population of 1,005,721, with 1,333 insane or idiotic, or 1 in 754.

In addition to the 9412 patients in county or borough asylums, and 2584 in licensed houses, there were 2266 males, and 2789 females, in Union workhouses, and 1840 males, and 2267 females, with their friends.

18. *Weekly cost for maintenance.*—The average cost weekly per head for lodging, maintenance, and care, medicine, and other expenses, differed in various counties, but the average cost in England was 7*s.* 10¼*d.* in county and borough asylums; 10*s.* 2*d.* in licensed houses; and 2*s.* 7*d.* elsewhere

In Wales, in county or borough asylums, the average cost per week was 8*s.* 8¼*d.*; in licensed houses 10*s.* 5¼*d.*; elsewhere 4*s.* 3½*d.*

19. *Number of Lunatics in* 1844.—On the 1st of January, 1844, the total number of lunatics and idiots was said to be 16,821 in England and Wales, the whole population being 16,480,082; of whom 4165 were confined in county asylums, and 343 in borough asylums; there appears to be hence an increase in the number of lunatics to a greater extent than is to be accounted for by the increased population; this may be owing partly to the fact, that care is taken by the legislature that all persons of unsound mind, whether lunatics or idiots, if paupers, shall be properly provided for.

TABLE I.

Counties.	Population in 1851.	Lunatics.			Idiots.			Grand Total of Lunatics and Idiots.	Proportion to Population.	In County or Borough Lunatic Asylum.	In Licensed Houses.	Cost per Week in County or Borough Asylums.	
		Males.	Females.	Total.	Males.	Females.	Total.					*s.*	*d.*
England.													
Bedford	124,478	37	47	84	42	37	79	163	1 in 764	92	—	6	11½
Berks	170,065	76	92	168	53	50	103	271	1 „ 628	158	10	8	0¼
Buckingham	163,721	52	76	128	55	39	94	222	1 „ 737	4	104	9	0
Cambridge	185,405	49	47	96	39	46	85	181	1 „ 1024	9	71	10	6
Chester	455,725	86	117	203	73	76	149	352	1 „ 1295	180	—	7	2½
Cornwall	355,558	93	114	207	71	81	152	359	1 „ 990	188	—	6	5¼
Cumberland	195,492	74	63	137	33	35	68	205	1 „ 954	4	76	8	9
Derby	296,084	56	65	121	71	66	137	258	1 „ 1148	76	14	11	9¼
Devon	567,098	174	274	448	135	136	271	719	1 „ 789	422	14	7	9¼
Dorset	184,207	83	104	187	42	59	101	288	1 „ 640	154	22	5	10
Durham	390,997	62	68	130	57	50	107	237	1 „ 1650	8	94	9	7½
Essex	369,318	104	153	277	92	107	199	456	1 „ 810	3	222	11	1
Gloucester	458,805	204	278	482	101	161	262	744	1 „ 617	283	58	7	11¾
Hereford	115,489	32	45	77	54	55	109	186	1 „ 621	25	36	10	4¼
Hertford	167,298	61	83	144	54	62	116	260	1 „ 643	125	7	7	0¾
Huntingdon	64,183	27	21	48	15	20	35	83	1 „ 773	47	3	7	1¾
Kent	615,766	187	297	484	109	102	211	695	1 „ 886	409	50	7	2¾
Lancaster	2,031,236	581	685	1266	283	326	609	1,875	1 „ 1083	1059	9	7	7
Leicester	230,308	89	100	189	75	77	152	341	1 „ 675	70	116	7	3
Lincoln	407,222	100	117	217	88	104	192	409	1 „ 996	70	116	10	10¾
Middlesex	1,886,576	577	1301	2058	208	192	400	2,458	1 „ 768	1761	278	9	2½
Monmouth	157,418	42	56	98	18	40	58	156	1 „ 1009	9	85	10	2
Norfolk	442,714	146	198	344	123	123	246	590	1 „ 750	262	68	5	5¾
Northampton	212,308	89	95	184	80	133	193	377	1 „ 563	132	35	8	7¾
Northumberland	303,568	84	91	175	71	67	138	313	1 „ 970	0	154		
Nottingham	270,427	120	105	225	55	89	144	369	1 „ 733	198	7	7	11¾

Oxford	170,439	75	114	189	59	72	131	320	1 „ 533	185	3	8	$0\frac{3}{4}$
Rutland	22,983	13	12	25	5	2	7	32	1 „ 718	21	1	7	$8\frac{3}{4}$
Salop	229,341	79	117	196	61	73	134	330	1 „ 695	174	6	9	$3\frac{3}{4}$
Somerset	443,916	142	172	314	150	165	315	629	1 „ 706	326	1	7	7
Southampton	405,370	140	179	319	141	147	288	607	1 „ 668	3	298	10	0
Stafford	608,716	152	153	305	121	138	259	564	1 „ 1079	304	15	7	$0\frac{3}{4}$
Suffolk	337,215	111	160	271	63	73	136	407	1 „ 829	241	32	6	4
Surrey	683,082	307	421	728	144	110	254	982	1 „ 696	751	2	7	6
Sussex	336,844	98	134	232	91	104	195	427	1 „ 789	14	194	10	3
Warwick	475,013	178	192	370	64	70	134	504	1 „ 942	227	120	8	$8\frac{1}{4}$
Westmorland	58,287	9	23	32	21	17	30	70	1 „ 833	227	16	8	$8\frac{1}{2}$
Wilts	254,221	102	127	229	86	95	181	410	1 „ 620	174	59	9	$11\frac{1}{2}$
Worcester	276,926	67	110	177	70	69	139	316	1 „ 876	11	138	10	$8\frac{3}{4}$
York — East Riding	257,286	90	91	181	46	60	106	287	1 „ 896	196	138	6	$8\frac{3}{4}$
York — North Riding	215,214	85	79	164	37	45	82	246	1 „ 875	137	11	5	$10\frac{1}{4}$
York — West Riding	1,325,495	308	321	629	216	282	495	1,127	1 „ 1176	586	3	6	$11\frac{1}{2}$
Totals of England	16,921,888	5421	7097	12518	3472	3835	7307	19,825	1 „ 854	9196	2434	7	$10\frac{1}{4}$
WALES.													
Anglesey	57,227	7	17	24	12	11	23	47	1 „ 1220	11	—	9	0
Brecknock	61,474	18	13	31	19	23	42	73	1 „ 842	13	12	10	0
Cardigan	70,796	6	17	23	30	40	70	93	1 „ 761	—	6	10	0
Carmarthen	110,632	31	33	64	53	55	108	172	1 „ 643	1	25	10	0
Carnarvon	87,870	25	21	46	40	49	89	135	1 „ 651	23	—	9	0
Denbigh	92,583	23	36	59	50	56	106	165	1 „ 561	50	—	9	$0\frac{1}{2}$
Flint	68,156	17	29	46	24	24	48	94	1 „ 725	47	1	9	$2\frac{1}{2}$
Glamorgan	231,849	73	64	137	36	41	77	214	1 „ 1083	1	102	9	4
Merioneth	38,843	9	7	16	30	23	53	69	1 „ 563	7	—	9	0
Montgomery	67,335	21	21	42	36	44	80	122	1 „ 552	30	—	9	$3\frac{1}{2}$
Pembroke	94,140	24	19	43	28	37	65	108	1 „ 872	32	102	5	$6\frac{3}{4}$
Radnor	24,716	4	6	10	12	9	31	41	1 „ 603	1	4	10	0
Total of Wales	1,005,721	258	283	541	370	422	792	1,333	1 „ 754	216	150	8	$8\frac{1}{4}$
Total of England & Wales	17,927,609	5679	7380	13059	3842	4257	8099	21158	1 „ 847	9412	2584	7	$10\frac{1}{2}$

CRIMINAL LUNATICS.

Abstract of Returns from County and Borough Asylums, Registered Hospitals, and Licensed Houses, and the Royal Hospital of Bethlem, March, 1852.

CIRCUMSTANCE.		INDICTABLE OFFENCES.									OTHER CASES.						GRAND TOTAL.		
		Felonies						Misdemeanors.			Committed for want of sureties, or as insane persons suspected of criminal intentions.			Summarily convicted for vagrancy, or wilful damage, and become insane.					
		Against Life.			Against Property and Person.														
		M.	F.	Total.	M.	F.	Total	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Tried	Acquitted on ground of insanity	80	26	106	25	3	28	11	2	13	—	—	—	—	—	—	—	—	—
	Convicted and sentenced and become insane .	9	1	10	103	18	121	20	1	21	—	—	—	—	—	—	—	—	—
Not yet tried	Found insane on rearraignment . . .	15	7	22	35	4	39	4	2	6	—	—	—	—	—	—	—	—	—
	Committed for trial and become insane . .																		
Total		104	34	138	163	25	188	35	5	40	36	7	43	22	8	30	360	79	439

20. *Number of Insane Persons confined in Asylums, Hospitals, and Licensed Houses, 1st January,* 1852.—From the report of the Commissioners in Lunacy, published in April, 1852, we learn that on the 1st January, 1852, there were 12,982 pauper patients confined in the public and private asylums of the country, and 4,430 private patients; of this number 8,247 were males, and 9,165 females; 236 had been found lunatic by inquisition, 436 were criminals, and 986 chargeable to boroughs; 10,217 were confined in asylums, 1285 in hospitals, 2326 in metropolitan licensed houses, 2979 in provincial licensed houses, 383 in Bethlem hospital, 129 in the Royal Naval hospital, Haslar, and 93 at the Royal Military hospital, Great Yarmouth.

21. *Number of Criminal Lunatics in England.*—In March, 1852, there appears to have been no less than 439 criminal lunatics in England and Wales. —See TABLE opposite.

22. *Mode of Calculating Mortality and Cures.*—In making allusion to the proportion of recoveries in the various asylums of Great Britain, &c., we shall in each case calculate the recoveries per cent. on the admissions during the year, and the deaths on the average number resident.

It would be well if each hospital for the insane were to publish, with its annual report, an accurate account of the admissions, deaths, and discharges, &c. arranged in a regular form.

But the reports of asylums differ much, according to the taste of the authorities, some containing no financial statement, whilst others consist of this alone; although we do not disregard £ *s. d.*, yet we should desire to see in some returns a longer medical report than we have hitherto done.

23. *Great Mortality in new Asylums and in some old ones.*—It will be perhaps noticed by many acquainted with statistics of insanity, that in some of those asylums recently erected, on the most approved plans, a higher rate of mortality is found invariably to exist, and a smaller number of cures than in some old asylums. We believe that such is the case; however, there are many reasons to cause this. In those counties where asylums are lately built, the official authorities are not alive to the advantages of the county asylum, and consequently at first only the very worst class of patients are drafted off from the union houses, hence many are sent in *articulo mortis*. Again, in removing patients from licensed houses, the cases which can possibly be discharged are sent to their own homes; and chronic cases may be said, to a great extent, for the first year or two, to form the principal occupants of our new county asylums. We find at Colney Hatch a mortality of 16·0 per cent., at Birmingham 14·95, at Rainhill, Lancaster, 15·9, Somerset 17¾, &c.; but on the other hand, in some asylums long established, where deficiencies exist as to structure, management, dietary, drainage, situation or otherwise, we find a higher mortality than we should expect there. That of the West Riding of Yorkshire, in 1849, exclusive of cholera, was 20 per cent.

24. *Use of Statistics.*—Dr. Wingett, of Dundee, in the annual report of that institution, for 1851, makes some very judicious observations in reference to statistics, &c. "It is customary," he says, "to judge of the efficiency of an asylum by a reference to its tables of cure and mortality. This rule is, however, partial and unsatisfactory; for, although it may express fairly enough the therapeutic and hygienic resources of the institution, it gives no expression whatever to the means in operation for palliation and soothing sufferings which admit of no radical cure. Thus statistics may show that an asylum is either a good or a bad hospital; but statistics cannot show what sort of a home it is. Figures cannot represent this class of facts, although of surpassing importance; the best and most important details of an asylum must always remain untold."

25. *Mortality in some Asylums of Great Britain.*—The mortality at the North and East Riding of Yorkshire Asylum, in 1851, was 5·9 per cent., 1852, 8·6; at the Montrose Asylum, 1852, 6·1; Dundee, 6·8; at Leicester County Asylum, 6·0; at Lancaster, 8·9; Bedford, 6·8; at Salop and Montgomery, 11·27; Edinburgh, 11·8; Hanwell, 5·30; York Lunatic Hospital, 6·1; Suffolk, 10·0; Belfast, 8·92; Bethlem Hospital, 7·21.

26. *Cures in certain Asylums.*—The cures vary in many asylums: they were on the admissions at Belfast, in 1852, 23·92 per cent.; in 1851, 22·48; in 1850, 29·87; at Morningside, Edinburgh, 1852, 40·9 per cent.; Salop and Montgomery, 43·33; Bedford, 23·33; Bethlem Hospital, 47·85; Suffolk, 59·0; Dundee, 53·4; Crichton, 37·0.

27. *The Recoveries in the Stafford Asylum.*—The recoveries for five years, ending 1851, in the Stafford Asylum, calculated on the admissions, were, in—

1847	50·84 per cent.
1848	48·52 „
1849	67·35 „
1850	28·07 „
1851	25·69 „

During 1851 the highest per centage of deaths took place; it was 8·26 in 1849; it was as low as 4.47 or 3·65 on the total number under treatment. The increased number of admissions appears to have caused, as it generally does, an increased mortality.

28. *Rainhill Asylum.*—The number of patients admitted into the Rainhill Asylum during the years 1852 and 1851, was 641, viz., 306 males, and 335 females; of this number, 119 were discharged recovered, 22 improved, 10 unimproved, 6 escaped, and 104 died; the average number resident during the two years was 290.

The proportion of recoveries in 1852 was 30·64 per cent., and of deaths 15·90 per cent.

29. *Somerset Asylum, number of Patients, &c. in* 1852.—"In the Somerset County Asylum the proportion of deaths during the year, and especially of men, has been unusually large. 15 died within three months from the time of reception; 2 within four days, 1 on the thirteenth, 1 on the fourteenth, 1 on the eighteenth day; the others at different periods, within one, two, or three months. The number remaining at the end of the year 1851 was 340; the number of admissions in 1852 was 128; of these 62 were males, and 66 females; 35 males and 23 females have died; 28 males and 40 females were discharged, leaving 342 in the asylum, of which 155 were males and 187 females."

30. *Lancaster Moor Asylum, number of Patients and their crowded state.*—In the Old Lancaster Asylum, at the commencement of the year 1851, the number was 785,—a number far too great for the comfort and well-being of the inmates; and such had been the pressure for accommodation, that every available space was obliged to be used. Among other contrivances for room, an old laundry, ill adapted for its original purposes, was converted into a dormitory for 30 female patients.

Discharges and deaths became more numerous than the admissions, and the committee have been able to make the needful improvements.

During the year 1852, 57 patients have been admitted, 26 men, and 31 women; all of them being, with two exceptions, from the northern division of the county. The average number resident has been 650.

Forty-nine patients have been discharged—14 men, and 19 women, as recovered; 2 men, and 4 women, as relieved; and 7 men, and 4 women, as not improved; 58 patients have died; 31 men and 27 women.

31. *The number of Patients admitted into the Royal Edinburgh Asylum* during the year 1852, according to the Report of Dr. Skae, was 129 males, and 118 females; of this number 58 males, and 43 females (total 101), were discharged cured. The average daily number under treatment was 5421. The deaths were in the ratio of 11·8 per cent. to the mean population of the asylum, or 8·3 to the entire number treated during the year, being a greater mortality than that of the preceding year.

32. *The North and East-Riding of Yorkshire Asylum.*—On the 1st January, 1853, there were in this asylum 296 patients; of whom 153 were males, and 143 were females. During the year there were 23 deaths, and 37 were discharged recovered. The total number under treatment was 364. Of the number under treatment 6·3 per cent. died.

The asylum was first opened on the 7th of April, 1847, since which 278 males, and 249 females, total 527, have been admitted; of whom 53 males, and 24 females, have died, total 77; and there have been 62 males, and 75 females, cured, total 137.

33. *Colney Hatch Asylum, numbers during the year.*—In the Colney Hatch Asylum, during the year 1852, there was a daily average resident of 465 males and 712 females. For attending this number of patients each medical officer, for there are *two!* is paid £200 *per annum!!*

The total number of males under treatment during the year, was 732, and there were 514 under treatment on the 1st of January, we are not surprised to hear that there were 119 deaths, and but 63 recoveries. The total number of females under treatment during the year were 896, the average number daily 712, and the number under treatment on the 1st of January, 1853, was 729. The deaths were 70, and 69 only were discharged recovered.

34. *Hanwell Lunatic Asylum.*—The number of patients in the Hanwell Lunatic Asylum on the 1st of January, 1853, were 963, of whom 411 were males, and 552 were females; the average number in the year was 962. The number of deaths were 51, or 5·30 per cent.; it was 5·53 in 1851, 6·65 in 1850, 7·18 in 1849.

35. *The Belfast Asylum.*—In the Belfast Asylum, during the year 1852, were, on an average, 280·01 daily resident; in 1851, 275·71. 62 in 1851, and 67 in 1852, were discharged recovered; and in 1851, the rate of mortality was 9·79, and in 1852, 8·92.

36. *Salop and Montgomery Asylum.*—On the 1st of January, 1852, the number of patients in the asylum was 216. Of these, 103 were males and 113 were females. In the course of the year, 39 males and 44 females were admitted; 16 males and 20 females were discharged recovered; 2 males and 1 female were discharged relieved; 3 males and 3 females were discharged unimproved; 16 males and 10 females died; and 105 males and 123 females remain.

The average number of patients residing during the year 1852, was 226·53; viz. 105 males, and 121·42 females.

The proportion of recoveries was 43·33 per cent., the per centage of males being 41·22, and that of females 45·44.

37. *Bethlem Hospital.*—There have been, during the year 1852, 303 admissions into Bethlem, viz.—

	Males.	Females	Total.
In the Curable Establishment .	101	167	268
In the Incurable „ . .	3	4	7
In the Criminal „ . .	24	4	28
	128	175	303

During the same period, 252 patients, admitted as curable, have been discharged, viz.—

	Males.	Females.	Total.
Cured	49	96	145
Uncured	36	71	107
	85	167	252

There have been, during the year, thirty-five deaths, 19 males and 16 females, which are thus classified—

19 Males { 15 Curable, 3 Incurable, 1 Criminal | 16 Females { 12 Curable, 4 Incurable.

On the 31st of December, 1852, there were 351 inmates; of whom were 193 males, and 158 females.

38. *French Asylums.*—According to the statistics supplied by Dr. Webster, as obtained on his recent visits to the French asylums, it appears that "a larger number of male patients were admitted than females; the excess being 81 or 13·47 per cent. of the former over the latter sex. More males than females were also cured, the ratio being 28·44 per cent. against 26·62 per cent. of the opposite. Again the proportion of deaths predominates amongst the male lunatics, of whom 37·97 per hundred admissions died; whilst the mortality amongst female inmates amounted to 35·60 per cent. similarly calculated.

§ III. GENERAL HYGIENIC CONDITIONS DURING THE TREATMENT.

(*a.*) *Locality and Internal Arrangements.*

39. *Situation of Colney Hatch, and style of Architecture.*—From the report of the physicians of Colney Hatch, for the year ending 1851, we learn that "The asylum is situated on a site sloping from north to south, necessarily obliging a descent to the building from the principal entrance, which is to the north."

This, although it may be considered by some as slightly disadvantageous to the general effect of the building viewed from the north, affords important sanitary advantages to the asylum, in facilitating a complete system of drainage, enabling all the galleries, day rooms, and airing courts, to be placed south, south-east, and south-west, commanding extensive views of the surrounding country from each, and securing privacy, 'shelter,' and freedom from excitement.

"The inclination of the ground has also enabled a communication to be

made from the central offices to the extreme wings, without in the least intereepting the views of the beautiful surrounding eountry, from the airing courts above; the extreme wings being 15 feet lower than the entranee, and enabling the formation of an inclined plane of gradual deseent, rendering unneeessary the introduetion of a single step throughout the ground floor in the communication with these buildings on the lower level."

"The style of arehiteeture adopted for the asylum is the Italian, having brick walls and stone rustic groins, strings, cornices, and window and door dressings.

"It was originally eontemplated that the building would only be required for 1000 patients, but its extreme length is 1883 feet 8 inches (or something more than the third of a mile), and the width of the galleries 14 feet, so that the asylum is in fact eapable of being made eventually to aecommodate, with careful arrangement, from 1300 to 1500 patients."

40. *Wilts County Asylum, form of building.*—Another of the new asylums opened in 1851, deseribed in the Dublin Quarterly Journal of Medieine, is the Wilts County asylum under the superintendance of Dr. Thurnam, a gentleman of high character in his profession, and distinguished as the writer of a work, entitled "The Statisties of Insanity." The Institution was ereeted to aecommodate from 280 to 300 patients, and in December 1851, contained 167.

The report eontains a full and interesting deseription of the building, as such, aeeompanied by a ground plan in addition, whieh we would reeommend the offieers of all new asylums to supply in their reports, as the expense would be ineonsiderable, and the advantages, for various reasons, very great."

The Italian style of arehitecture is that which has been adopted as the most simple, light, and eheerful, and giving the greatest effeet at the least cost; we are glad to find that the Asylum is built, as all should be on the system of fire-proof construetion, known as Fox and Barrett's Patent, eonsisting of iron joists and eonerete; and as another preeaution against fire, the floors of corridors, day rooms, dormitories, and single sleeping rooms, are formed of one and a fourth ineh yellow deal battens, slate sills being introduced in the door ways; so as to eut off all eommunieation in case of the floor of any rooms taking fire.

41. *Size of the Day Rooms, &c.*—The eorridors are 11 feet high, and 12 feet wide. As regards the wards in this new hospital for the insane, the day rooms are 22 feet long, and 17 wide, the height of all rooms, corridors, &c., being 11 feet, the single sleeping-rooms are 9 feet long, and 6½ wide, a few with fire-plaees, being a foot wider, the eubie eapaeity of the former being about 683, and the latter 782 feet; there is a large proportion of associated dormitories; for of the 286 beds for patients eontained in the hospital, 178 or 62 per cent. are arranged in this manner, the remainder being single rooms.

42. *Warming and Ventilation.*—The warming and ventilation is similar to that employed in the Oxford, Colney Hatch, and other new asylums, by means of which an average temperature can be preserved through the severest weather; and by which the external air admitted in large quantities, passes over a series of plates, and pipes filled with boiling water, and from the hot air chamber, passes into large flues, running the whole length of the corridors. What is a matter of great moment, the separate sleeping rooms, dormitories, and bath-rooms, are warmed by distinet flues, braneling from the large mains. But though this artificial warmth is so fully provided for, as it should be, open fire-plaees also are called into requisition in all the day-rooms, attendants rooms, &c., whieh it is desirable should be the case, the eheerful bright blazing fire in winter being in our experience indispensable, and promotive, to a large extent,

in soothing and exhilarating the patients; indeed we do not know a happier sight than to see a number of them sitting around the hearth of a winter's evening, thus enjoying themselves. "We say emphatically then, that by all means the good old custom of open fire-places should be kept up in our asylums, as well as in our ordinary homes, be the warmth otherwise of our apartments complete and sufficient as it may."

43. *Flooring of the Somerset Asylum.*—In the description of the Somerset asylum, Dr. Boyd says, as to the flooring, "hewed stone is used in the most frequented passages. The tile floors answer and look well in the corridors on the ground floor, they do not absorb water used in washing, which they otherwise will do." With all due deference to the opinions of Dr. Boyd, we must say we consider wooden floors for the corridors to be preferred. The remarks made by Dr. Boyd on washing stone floors are worthy of notice, he says: "a medical friend of great experience has written me that he considers the system of dry rubbing floors a very good one."

44. *Form of the Windows.*—The windows have freestone frames, with cross minions 3 feet 9 inches from the sill, and cast iron sashes, and the size of each pane is 8 inches by 5 inches; about one-third of the upper sashes open by means of a lever and slide. At the end of each corridor there are slate doors fire-proof.

"The doors of the bed-rooms, closets, and bath-rooms open outwards, and the bed-room doors lie to the wall; the side-posts should be firmly fixed into the masonry, especially at the top, otherwise the doors will be frequently out of order."

45. *Size of the Corridors.*—The corridors are $11\frac{1}{2}$ feet wide, and $11\frac{1}{2}$ feet high, and would be better if two feet higher; they are well lighted, having windows 6 feet 9 inches high, and 3 feet 2 inches from the floor; the windows are quite unprotected, and in many of them are flower pots, and several birds are kept, some of which are so tame that they live principally out of the cage; in a corridor and day-room 177 feet long, there are four single light windows, 6 feet 9 inches by 2 feet: two treble light windows 6 feet 9 inches by 8 feet 5 inches; in the day-room one treble light window 6 feet 9 inches by 6 feet, and at the end of the day-room a bay window with six lights, 7 feet high by 14 feet wide.

There are double and single light windows in the dormitories. The corridors are generally preferred by the patients to the day-rooms, and those in the front are better lighted and more cheerful, with the exception of the day-rooms in the infirmaries; if these corridors were loftier and a little wider, the day-rooms might be dispensed with.

46. *Smallness of the Infirmaries.*—The infirmaries are on the upper story, and are adapted for fifteen patients each, being $8\frac{1}{2}$ per cent. for 350 patients, the number for which the house was intended. This proportion is too small, the infirmary ought to be sufficient for twenty to twenty-five patients, not less than 12 per cent. for the intended number of patients.

There are two dormitories, one containing six and the other seven beds, and two single rooms in each infirmary. There is a free circulation of air between the dormitories, passages, and day-rooms, which allows upwards of 1060 cubic feet of air within the building to each patient.

47. *Padded rooms.*—There are padded rooms on either side filled up in the simplest manner in pannels covered with bed-tick, and stuffed with straw, "the rooms are not very often required."

48. *Baths, Lavatories, &c.*—For each class of patients there are baths, lavatories, and other conveniences in sufficient number. "The baths are of galvanised iron; there are cupboards in each corridor for the convenience of

the attendants to secure utensils and stores, and to prevent them leaving their charges.

49. *Irish State Asylum, its general form and appearance.*—According to the report of the Inspectors of Irish asylums, dated 1851, we learn:

"The establishment of a criminal asylum for the reception and custody of lunaties charged with offences in Ireland, was provided for by a special act, 8 and 2 Viet., eap. 107, and at the same time, a parliamentary grant of 6000*l.* was voted for the object, immediately after which, a site possessing a eheerful and healthy aspeet was selected near Dundrum, in the county of Dublin, about three miles from the city at its southern side. The purehase of 14 acres statute was effeeted by the Commissioners of Public Works, at a cost of 2300*l.*, and the building eommenced in 1846, was finally terminated in July, 1850, when the establishment, with an aeeommodation for 80 male and 40 female lunatics, was plaeed under the control of the inspeetors, who were directed to draw up a code of rules and regulations for its maintenanee and management.

The eonstruetion of the buildings themselves is characteristic of a private house, even more than of an ordinary asylum; the windows of ample size, and reaching along the corridors, dormitories, and day rooms, within a couple of feet of the floor, are totally devoid of bars and grating, and, as the interior arrangements, generally speaking, are on the most approved system for similar institutions, the Commissioners have carried out at Dundrum the desirable objeet of divesting the whole coneern, as much as possible, of a prison-like appearanee; and we are happy to record that since the opening of the asylum, and to the present time, not the slightest personal aeeident has oeeurred, or any injury to property beyond the loss of a few panes of glass; a result strongly indieative that insanity, even in its most alarming aspect, before the public, requires nothing beside an uneeasing vigilance on the part of the attendants for its effeetual eontrol.

50. *The necessity of the Kitchen being placed far from the Wards.*—Dr. Brown, in his admirable report of the Crichton asylum, says, "It is rarely conceived that the ventilation of such buildings as this influence the whole plan of medical and moral treatment. The atmosphere, redolent of vapour and effluvia from culinary preparations, suggests multiform delusions eoncerning the food; the vitiation of the respired air depresses and debilitates, and where it does not engender actual disease, it reduces the system to that state in which it is most susceptible of morbid influences, and in which languor and torpor are themselves a malady, and incompatible with the vigorous, vivacious use of the mental powers; complaints of this kind have been submitted to the directors, which appeared to be valid, from the position of the kitchen, and its relation to the heating apparatus. These evils are now removed."

51. *New Kitchen erected at the Crichton Asylum.*—A large distinct building has been erected equidistant from the two extremities of the completed establishment, which communicates with the centre of the existing house by a subterranean railway, by which will be conveyed the food, stores, and other articles to the slips, or perpendicular passages, which have been prolonged, and ascend from the terminus to every gallery. The principal kitchen, measuring 35 feet 4 inches, by 14 feet 6 inches, both being 24 feet in height, discharge their heated and humid air by ventilations in the roof, and by a chimney of the same height as the institution; they are provided with Plymsal's ranges, double-case boilers, troughs of Welch slate, and every means which will diminish labour, and render cleanliness rather the result of mechanical contrivance and necessity, than of human will. The size, and especially

the height of their apartments, and the several provisions, are calculated to protect the health of those confined to them."

52. *Internal arrangements of Colney Hatch.*—The Colney Hatch asylum from the report of Drs. Hood and Davy, is classified into three divisions; the male and female departments, and central offices; they are lighted with gas, and warmed with hot water. The water-closets are self-acting in wards and airing courts. "Each gallery and dining space has three open fire-places."

"The wards for females are eighteen in number, from fifteen to thirty-two inclusive; and in all respects correspond to those of the males, except that most of them will contain forty instead thirty-five patients.

"The patient's wards, on the male wing, are numbered from one to fourteen inclusive. Each of them contains accommodation for thirty-five to thirty-nine patients, and comprises besides the patients, sleeping rooms, a gallery, dining room, lavatory, bath-room, two attendants' rooms, store room, scullery and two water-closets in each ward. The galleries are 14 feet wide, and 15 feet 8 inches from floor to floor.

53. *The necessity of attending to minute particulars in the Apartments.*—Dr. Hood remarks in his report of Bethlem hospital: "The domestic arrangements for the patients, particularly those connected with their sleeping rooms, have been the subject of especial consideration. Indeed, I am convinced that attention to the most minute particulars in their apartments, the appearance of neatness, cleanliness, and home-like comforts, has a soothing and salutary effect upon the minds of all insane persons. Even though unaccustomed to habits which prevail among the wealthier classes, the humblest artisan quickly appreciates any improvement in his social condition; as soon as he acquires a conscious feeling of self-respect, and the moral of his being becomes as it were raised within him, a curative process is mentally established, which rapidly conduces to his recovery."

"It is of the greatest importance, therefore, to surround the insane with all those conditions which may contribute to their personal accommodation, whereby thoughts and associations of a healthful tone and character may be suggested, which will gradually dispel the delusions that afflict them; it may also be remarked that the greatest confidence may be placed in every description of moral treatment, which will always ameliorate, if it does not eradicate, the disease.

"It is therefore proposed to abolish all those gloomy appendages which characterised of old the external appearance of the mad-house, and which diffused gloom and despondency through the interior of the building.

"The massive iron bars which now darken and disfigure the bed-rooms of the hospital, will be removed and replaced by windows of higher and more cheerful appearance, similar in construction to those recently introduced in the front windows of the ground floor.

54. *Remarks by Mr. Hill.*—Mr. Hill, of the North and East Riding Asylum, speaks very emphatically of the importance of the situation of an asylum, and the necessity of paying much attention to the general hygienic condition, as influenced by the construction and internal arrangements on the health of the patients. In his address to the Visiting Justices of Cambridgeshire, he says, "To dwell upon the special forms and arrangements of those asylums designed thirty or more years ago, is not requisite, except for the purpose of demonstrating that many recently built do not surpass the older institutions to the extent they ought.

"The modern asylums are constructed, in spite of the Commissioners in Lunacy's injunctions, without regard to aspect; the four points of the com-

pass being usually in equal favour with architects. The patients are distributed over the various floors, both by day and by night; the egress into airing courts for those who live on the upper floors is by long flights of stairs, some of which are inperfectly lighted and ventilated; the patients lounge and crouch about in these obscure and very dangerous thoroughfares, where it is nearly impossible for the attendants to watch them. The same may be said of the approaches to workshops and household offices. With such bad contrivances, no portion of the asylum is ever freed from respired air; all parts are alike tainted, and they sleep in the same atmosphere as is breathed by day. Sinks, water-closets, washing-rooms, and baths, emit dampness, rendering the apartments close and unhealthy; for the air, when loaded with additional moisture, loses its elastic and healthy properties, and the inmates are thereby made uncomfortable, restless, and noisy. They are deprived of that change so conducive to health, contentment, and happiness, and inhabit from week to week, and from month to month, the same rooms and corridors on the same floor. Delusions here feast their wildest fancies; the slothful, the indolent, the palsied and epileptic, the sick, aged, and infirm, the self-willed, morose, and perverse, are unable or unwilling, or do refuse to descend the stairs, for the only variety within their reach; and the exercising grounds are but partially used, instead of all sharing these indispensable enjoyments; for without recreation in the open air and invigorating amusements, it is not possible the insane can either be bodily healthful, or become mentally sound.

"Therefore it is most essential, that no *architectural impediments* should prevent free egress to cheerful pleasure grounds and well-stocked flower gardens, commanding a view of the surrounding country.

"The asylum must be a residence, and not a place of confinement. Seclusion retards recovery, adds poison to the disorder, opposes the salutary action of remedies, quashes the influence of moral agency, by producing discontent, and engendering feelings antagonistic to reconcilement; and keeps alive the suspicions, doubts, fears, and harassing imaginations which insanity creates. The friends and relatives are filled with despair, the officers diappointed, and, finally, *the public loaded with perpetual burdens.*"

55. *Form of building, to permit the exercise of feeble inmates.*—In Dr. Webster's recent visit to the Stéphansfeld Asylum, he noticed a construction, apparently of great advantage, adjoining the infirmary. He says, "One peculiar adjunct to the female sick ward here deserves special notice, from its novelty and really useful purposes, namely, an airy and spacious gallery, or verandah, which will shut up close, or can be freely exposed to the external atmosphere, as circumstances might require. Being on the same level with the infirmary, patients who were improving in health, and for whose complaint a change from the confined air of their ordinary dormitory to an open atmosphere, with moderate bodily exercise, would be advisable, might here obtain both without descending stairs or incurring the fatigue of making much alteration in their exterior appearance or habiliments. The important benefits derived from such an apartment, for persons approaching convalescence, are so evident, that the same plan might be very judiciously adopted at other institutions for the insane, as also in hospitals and infirmaries."

A similar arrangement is being made at Bethlem hospital, and described by Mr. Sydney Smirke, in a letter to Dr. Webster,—"for enabling convalescent patients to take bodily exercise in the open air, before they can be allowed to go out of doors. On the upper story of the infirmary about to be built, on both the male and female sides, there will be an apartment 41 feet by 24, and 13 feet high, reached by stairs from the rooms appropriated as infirmaries. The roof is of copper, with a plaster ceiling; three sides of the apartment are

wholly of glass, with iron pillars and sashes. The glazing consists of long narrow vertical louvres of glass, each of which turns on a centre, so that they can be all opened, wholly or in part,—one movement opening sixteen louvres simultaneously, much in the manner of common parlour blinds; the clear space between each louvre, when open, is about five inches; by this arrangement all three sides of the apartment will be perfectly open for the admission of fresh air without any possibility of danger to the patients. The bottom of these glazed louvres is three feet from the floor, and they extend up to the ceiling. Rain cannot enter, and the sunshine may be modified if necessary."

56. *Drainage.*—Dr. Boyd, in his fifth Report of the Somerset Asylum, observes, "As inquiries respecting the ventilation, heating, drainage, and general arrangements of this asylum, are frequently made by visitors and persons interested in the erection of asylums in other counties, and as these inquiries require consideration and occupy much time to answer in detail, it may not be out of place here to make some remarks upon these subjects, from the experience which this institution has afforded.

"The Commissioners in Lunacy have in their Report, 1847, Appendix E, given rules to be observed with reference to the *site* for an asylum, and respecting plans, drawings, and particulars, which are required to be submitted to them. There are also suggestions to architects respecting the general form for asylums, and general arrangements of buildings, size of rooms, staircases, ventilation and water supply.

"These matters are no doubt kept in view, and the architectural appearance is almost certain to meet with due attention; but it sometimes happens that minor details, which embrace interior comfort and convenience, are lost sight of, and that alterations and additions have subsequently to be made at considerable cost, and less effectual than if attended to in the original construction.

"Particular attention ought to be paid to the making of drains in the first instance, so as to prevent the necessity of breaking through walls and floors for alterations afterwards. The plan which is so well carried out here, by which the sewage is conveyed into a large reservoir, has allowed of trunk drains being made through the land, with hatches in them at certain intervals for the purpose of irrigation, and these drains are again carried into tanks or small reservoirs, from which the sewage can be pumped or drawn as required. By a double-barrel liquid manure lifting pump, the sewage can be raised, and the tanks in the garden supplied.

"The sewage thus made available, at a very moderate outlay, for fertilizing the land, should, if possible, be diluted with rain-water, but the rain-water must be collected in tanks, and used for washing, baths, and brewing, for which rain is generally to be preferred to spring water."

(*b*) *Internal Government and Economy.*

57. *The Duties of the Medical Superintendent.*—The experience of all connected with the insane in Great Britain, France, Germany, America, &c., proves that an asylum for the insane must, as regards internal government and economy, be entrusted to a well educated medical officer; he alone can be the superintendent, whether acknowledged to be such or not, if it is allowed that institutions for the insane are formed for the relief of the mentally afflicted, and their restoration to a right mind. Let it be once acknowledged that an asylum is only a place of detention it loses the high character for which it was intended; then a layman may become its superintendent, or the "custos corporum" of the prisoners, which alone he can simply be, and the use of such must be to the mind of most a myth. As well might general hospitals be without their medical and surgical staff, to attend

minutely to all the various forms of disease which are sent for relief, as a lunatic asylum to be without its medical superintendent. Do not our physicians and surgeons, attached to such general hospitals, religiously observe everything which tends to insure a patient's recovery or relief, or to ward off death or chronic disease?

Does any one pretend to interfere in such matters, whether as regards diet, exercise, occupation, medication, religious duties, association, description of apartments most suitable, or, in fact, anything which relates to the patient, but the physician or surgeon under whose care he is placed; the interference would be considered an absurdity; if death ensued, and such interference had been the cause, would not he who interfered be considered guilty of homicide?

So long then as the "*mens sana*" exists only "*in corpore sano*," so long will it be that the "*mens insana*" exists only in "*insano corpore.*" But at Bethlem hospital this principle has not always been recognised; for we find, from the late inquiries by the Commissioners, that the authorities made nice distinctions as to the peculiar duties of the medical officers, thus restricting their sphere of usefulness, as they were not entrusted with the *sole treatment* of their patients, for the classification, employment, and amusements of lunatics, and the other influences embraced under the term "moral treatment," which form so great a part of the duties of the psychological physician, were entrusted to a steward and matron; and the prospect of recovery, (as illustrated by one case,) was little for her who had "A physician for her medical relief, a surgeon for her 'infirmity,' a matron for her 'moral treatment and to give her clean straw,' an apothecary to attend her when no one else did, and yet no one responsible!" We believe that there does not exist any public asylum in this country where the whole treatment is not carried out under the direction of the medical officers. They alone are capable of treating the insane.

"It is unnecessary to say that the conduct of the moral treatment of the insane demands a far more profound, scientific, and practical skill in the higher departments of medicine, than does the mere administration of the remedies of the pharmacopœia. We are well assured that few medical officers of our county asylums would feel it consistent with their personal respect, and still less with their *sense of duty* to their patients, to retain their appointments under such regulations as prevailed at Bethlem."

58. *Remarks on the Duty of the Medical Officer, by Dr. Flynn, of Clonmel.*—In Ireland, where the non-medical managership has been more or less carried out, the number of cures have been remarkably low, and unless, says Dr. Flynn, "the medical officer-in-chief reside in the hospital—unless he be empowered to meet all difficulties as they arise, by the possession of clear, definite, and unquestioned, but strictly responsible authority, a lunatic asylum, under the *best non-medical management*, is not an hospital for the treatment and cure of the insane; but with its sanded floors, clean beds, and whitewash, merely a well-regulated gaol, holding within its walls patients or prisoners, who must be guarded, as best they can, by resident officers, hampered with restrictions and cramped in their authority, circumstances which reduce them to cyphers, and the patients or prisoners (it is unnecessary to cavil with either term), ultimately to incurable insanity."

59. *Remarks by Dr. Galt of Virginia.*—Dr. Galt, physician to the Asylum of Virginia, at Williamsburg, in an address which he read before the Association of Medical Superintendents of American Institutions for the Insane, says —"I shall simply touch upon three points in this relation; the first of these topics which we proceed to notice is an arrangement suggested with the earliest history of a lunatic asylum." He thinks that when an institution is contemplated, "the medical superintendent should be appointed before the

building is put up, or even a plan of construction is adopted, and this too whatsoever be his particular functions with regard to the necessary buildings; in other words, for example, whether he be entrusted with the supervision of the whole undertaking, or have only the task of making suggestions as to the adoption of a suitable model. Not unfrequently we find that it is the practice with the trustees of new asylums, to select as their medical superintendent some gentleman who is already connected officially with an establishment of the kind. In such events, as regards an asylum designed to be erected, it is evident you secure the aid resulting from the counsels of an individual directly and personally interested in the proposed institution, who has a thorough acquaintance with the architectural requirements for the management of the insane. Here you have, therefore, the combined assistance of self-respect, experience, and study."

Secondly, as to the functions of the resident physician, and the relations of the officers and attendants, Dr. Galt remarks, "no general system can be fully carried out, unless each member of the official corps co-operate fully with him who has the responsibility, alike of both the medical and the domestic arrangements of an asylum, and it is in vain to expect so desirable a union where subordinates look to a higher power than the medical officer."

Dr. John S. Butler observes, "There is one topic, however, to which I will call your attention, because it lies at the foundation of a successful permanent organisation, and is in my opinion the only safe basis upon which a lunatic hospital can be organised, which is, that the superintendent should be a physician, with *the entire control over all departments of the institution, domestic as well as medical* (of course under the direction of a board of trustees). The superintendent should have this control, because unity of action, arising from unity of views and sentiments, is the chief element of system; system cannot exist if the action comes from more than one source, and without system there can be no success."

The third point to which I would call the attention of the association, is the question whether it is advisable to have a visiting or consulting physician, instead of the American plan of dispensing with such an official.

The arrangement which I would propose, is that the superintendent should have the nomination or appointment of a consulting physician, who would thus, like the other officers, be considered as an auxiliary. "The officer in question is to be selected by the superintendent, and consulted by him when deemed necessary."

60. *Visiting Medical Officer should be consulting*—"Where the principal medical and moral treatment is left with the visiting medical officers, we believe it is certain to be neglected, or inefficiently conducted; "thus, in our own country, such has been attended with unfavorable results, and given rise to a divided authority, leading to abuses and mismanagement. Bethlem hospital, before alluded to, is an example, and the commissioners in lunacy, in their report of the state of that institution, the name of which has been said to be the synonym of all that is foul, corrupt, and humiliating, recommended for the management of 400 patients, "That in any new arrangement it should comprehend the services of (at least) two resident medical officers, one of whom should have paramount authority in the hospital, and should be responsible for the whole of the internal management thereof;" and we are fully convinced that where it is thought proper to have a visiting medical officer, his function should be purely consulting; were they directing, the authority and utility of the resident physician must be materially interfered with.

61. *Remarks by Dr. Thurman.*—Dr. Thurman, in his statistics of insanity, says, "It is hardly possible, perhaps, except by living in an hospital for the in-

sane, for any one to be made aware of the disturbing effect which the visits of a non-resident medical officer, even when acting in concert with the resident physician, may produce on the patients; a word, a look, or a gesture, on the part of the one is sufficient to encourage hopes, or excite fears, or it may be to revive delusions or propensities, to effect an impression of which may have been the labour of weeks on the part of the other."

62. *Remarks by Dr. Webster as to the government of French Asylums.*—Dr. Webster, in speaking of the administration of departmental asylums in France, says, "Considering it will be interesting to English readers of these notes if some details respecting the executive and mode of administering public lunatic institutions in France, as now generally pursued, were added to previous observations, I have been induced to make inquiries on such subjects, in order to point out several evident defects in the present system; although, at the same time, various matters deserve marked commendation. Should my subsequent observations be ever noticed by French authorities, they must be taken merely as independent, but well meant, criticisms of an Englishman anxious to correct proceedings which he thought defective, especially in reference to the position of professional gentlemen attached to their institutions, who, speaking from frequent personal interviews, are truly a most meritorious class of officers, and through whose continued exertions many of the public lunatic asylums of France have chiefly attained the prominent position they now occupy in Europe. Nay, I sincerely think, were these devoted public servants more liberally remunerated, possessed greater executive power, and were less trammeled by local functionaries, sometimes wholly ignorant of insanity, the afflicted patients committed to their medical surveillance would be materially benefited."

"The lay administration of public asylums consists of one resident director, who receives a fixed annual salary. He is assisted by the committee of surveillance, which comprises five members; the latter, however, give their services gratuitously. In twenty institutions amongst the forty, *the chief physician also fills the office of director.*"

63. *Objections to a non-medical Director.*—In those asylums where such does not appear to be the case, "a kind of domestic warfare has constantly prevailed. Resignation, changes, and even dismissals have supervened in asylums disturbed by such feuds, so that nothing is often so uncertain as the position of a medical officer."

"Seeing the modern treatment of insanity does not consist solely in the administration of medicine, but to prove efficacious, constant attention must also be given to patients during the hours of work, at meals, and in their recreations, nay, even during sleep; these important questions a non-medical superior officer cannot comprehend. Consequently, to prevent misunderstanding, and likewise that the executive of large lunatic establishments may act harmoniously, it has become the practice, of recent years, to appoint medical men to the office of director, who are hence able to understand, besides their own administrative duties, questions of hygiene, &c.

64. *Of the Advantages of Internes, or Clinical Assistants.*—"Amongst numerous features," says Dr. Webster, "usually at the establishments under discussion, and which merit decided approval, none is more beneficial than the appointment of internes to reside in such asylums. Besides being an excellent practical school, where future practitioners can obtain most important knowledge and experience respecting mental diseases, these junior medical officers become many ways useful to the physicians, and beneficial to the patients.

"In every case where internes were attached to French asylums, invariably the duties seemed performed with greater regularity, and the patients received

better attention, whilst the case books, to say nothing of minor details, were more accurately kept than otherwise; upon no point was the utility of internes so remarkably shown as in reference to the diminution of personal restraint amongst the inmates of particular institutions."

Take, as example, Bon Sauveur, having eighteen patients so confined, or St. Germines, which had twenty-seven residents in strait-waistcoats, and Orleans, where twenty-five inmates were also personally restrained. To none of these asylums were any internes appointed.

"I am, therefore," says Dr. Webster, "so thoroughly convinced respecting the great importance of similar assistants in every lunatic asylum, that none ought ever to be without one or more of those officials. As well might general hospitals be deprived of house-surgeons, clinical clerks, or dressers."

Uniform observation throughout France shows the marked utility of internes; hence every English asylum should adopt a system which comes recommended by the best of arrangements—well established experience.

65. *Responsibilities of a Medical Superintendent.*—Dr. M'Farland, of the New Hampshire Asylum, United States, says, "It is no trivial matter, to assume the right to think and act for a body of our fellow beings, of whose liberty we have become custodians, and whose minutest movements we may be obliged to direct. It is no irresponsible undertaking to impose restraints which, if protracted, may be injurious, or to grant liberties which, if transcended, may prove fatal. It requires no little schooling of the sensibilities to listen, patiently for a hundredth time, to the complaint which has no existence, save in the disordered fancy, to parry the request that cannot be granted, and which is painful to deny, to frame a new reply to the interrogatory that has been and will be repeated with every meeting, however often, to meet the eye, whose every glance is a volume of yet unexpressed suffering, that admits no mitigation.

It needs more than human aid to keep unexhausted the fountains of sympathy, and to bear cheerfully a burthen from which night affords no relief. If to walk daily amid scenery like this is the ordinary lot of all who assume the care of the insane, under the most happy circumstances, the case puts on a new aspect, if to this is added the never yet described condition of a *crowded lunatic* asylum. There is then a painful sense of irritation read in every movement and feature of those who are seeking vainly, amid the throng, the disbursement of an overcharged brain, in solitude and silence.

Suffering, as it is reflected from one countenance to another, recreates itself, and such reduplication is clothed with new horrors."

66. *Advantages of a Chaplain.*—"Many of the larger asylums have a resident chaplain, and such as have not are periodically visited by some neighbouring clergyman. This is an excellent arrangement, and one of the great improvements in the modern treatment of the insane."

He quite agrees with Dr. Winslow that, for many reasons, "a chaplain should exercise the functions of his sacred office, under the direction of the medical superintendent, and that he should be instructed not to address himself particularly to any patient without that officer's knowledge and approval."

67. *Position of the Matron.*—Another very important regulation in the government of an asylum, says Dr. Winslow, is "the position of the matron with respect to the medical officer. We have no hesitation in saying that it ought to be strictly subordinate, and her functions exercised solely under his direction. Yet at Hanwell and Colney Hatch, and in some other asylums, the matron is not only quite independent, but holds the same rank, exercises an equal authority, and obtains the same, or nearly the same salary; so highly, indeed, do the Hanwell justices esteem their matron, that they print her

report "replete with interest and pathos, in an unmutilated form," giving it precedence to the reports of the medical officers.

68. *Position of the Steward.*—There is yet another officer to whom too large a share of authority is conceded in some public asylums, we mean the house steward, store-keeper, or domestic superintendent, or whatever be the name of the office, he whose duty it is more particularly to attend to the supply of food and clothing for the inmates of the asylum, and should be strictly subordinate to the medical officer, under whose direction he should act, and be satisfied so to do.

69. *Authority of Medical Officers over Attendants.*—Lastly, we think it indispensably requisite for the due maintenance of discipline, that the medical officer should possess the full and exclusive authority to dismiss and engage all the attendants and servants.

70. *Hanwell Asylum Matron's Report.*—The public is naturally induced to look to Hanwell as the model asylum from which to form their ideas of a well-managed institution; and this is very natural from the prestige given to the asylum by Conolly; but to whom shall we look in the late Report for an authority on the subject at Hanwell: we would, at first looking at the Report of this institution for the past year say—to the matron. It is this functionary who stands out in such bold relief in the late Report, and who writes as if the whole management, medically and morally, of the female patients, were entrusted to her; thus, she speaks of "the cases of complete recovery," the visits of the "Matron and resident Medical Officer," the "information in their cases," of the "less acute" cases, of the "convalescence of several," of the "recoveries" having "been many, and some of these are of a peculiarly interesting character," and goes on to detail these cases. She refers to the "obituary" and of one having "a slight cold," who, "after only one week's confinement to her bed," &c. whilst the articles of bedding and clothing appear to be left to her deputy to manage, the storekeeper. We hear nothing from the matron of the number of sheets, table-cloths, petticoats, shirts, women's gowns, &c., which passed under her observation; these appear to be matters of too little importance for the matron of Hanwell to notice.

What one would naturally ask can be the position of the matron at Hanwell, certainly not such as one supposes from the rules; were it so, we should have an account of "making, repairing, washing, airing, and distribution of *all the linen of the Establishment*," and we should read a modest account of her *carrying out* the "orders and directions as to classification, employment, amusements, and management of female patients," of the medical officer.

Unanimity appears never to exist at Hanwell, and never can, where such desire for independent action reigns with subordinates. But as the medical reports of the institution are deficient, we would that more were produced from such a vast store; the principal amount appears to come from Mr. Aulsebrook.

It may appear to some a little querulous to notice this point, but any one acquainted with asylum management fully knows the necessity of a medical chief, and we speak advisedly. But when a matron is paid the same salary as the medical officer what can be expected.

(*c*) *Dietary.*

71. *Necessity of a liberal Diet for the Insane.*—It has been unquestionably proved, by the best of all means, namely, by long and well-tried experience, that a good liberal dietary is necessary for the insane. A scale of dietary above that which the person would take if well, and surrounded by the comforts of home, is certainly required by those who are confined in an asylum.

It is important to notice that the disease is too often one of asthenia;

there is generally a diminution of vital power in the various functions of the body, added to this, the concentration of a vast number of persons within a small area constantly evolving that which from sane persons, if accumulated, becomes a deadly animal poison, the products of perspiration, respiration, and secretion, the noxious character of which is without doubt much increased in the insane; food of easy digestion, nutritious, and even stimulating, is required.

Of course the food must differ according to the class of individuals for whom it is intended. The agricultural labourer, as a rule, will not require quite so liberal a diet as an artizan, and we might even go further and say, that a difference in scale of dietary may even exist in different counties. The food, perhaps, would be required of a higher nature for the labourer of Kent than for a person in the same class of society in Dorsetshire or Wiltshire, more animal food being procured, as a rule, by the labourer in health in the former; such points must be determined by circumstances.

It would appear that the mortality of an asylum is much affected by its dietary. If we take for granted, as we are bound to do, "that a mortality which exceeds 9 or 10 per cent. is usually to be considered unfavourable, and one which is less than 7 per cent. as highly favourable" in those institutions which have been in operation more than twenty years in a mixed county asylum, and, "in regard to pauper asylums, Dr. Thurman says, 'I believe we may add that a mortality that exceeds 12 or 13 per cent. is a very unfavourable one, and that one which is much less than 10 per cent. is highly favourable; this rule being calculated on an average of five years.'"

We shall find on examination, that when the dietary has been deficient the mortality has invariably been higher, and the amount of cures less; formerly at Lancaster the dietary was 138¼ ounces of solid food, without vegetables, the mortality 18·01 per cent; York, West Riding, 134 ounces, mortality 16·16 per cent; Middlesex, 140 ounces, mortality 11·69 per cent; Gloucester, 190 ounces, mortality 7·19 per cent; Nottingham, 248 ounces, mortality 7·34 per cent.

72. *Remarks by Dr. Davey.*—Dr. Davey, in his report on the state of the Colney Hatch Asylum, in 1852, says, "As a strong and presumptive proof of the false and incorrect views entertained generally concerning the requirements of the insane, it may not be considered out of place to mention here the weakly and very delicate state of health in which a large number of the female patients were admitted from the union houses, *and this was very evidently the consequence of an improper and insufficient diet.* Inasmuch as insanity as a rule, a disease of debility, and tending by its very nature to exhaust the powers of life and enfeeble the constitution only; not only is it *not* necessary, or even prudent to employ a low diet; but, on the other hand, it is *indispensable* if we would place the *poor lunatic* in the most favourable position to recover his mental health, to administer good sufficient quantity of wholesome and nutritious food, both solid and fluid."

"I feel confident, that in so far as *individual* causes of mental disorder are concerned, there is not *one* which exerts more prejudicial or serious effects, than that comprised in unwholesome and insufficient food; this may be demonstrated in many ways, but it is sufficient for the present to observe that in all those asylums where the dietary is not liberal, there the recoveries are few, and the deaths many; and, on the other hand, in those institutions where the dietary is ample, then the proportion of recoveries and of deaths is reversed." We quite agree with the statements of Dr. Davey and Dr. Thurnham, and would most strongly urge on all managers of asylums the necessity of adopting the advice of the medical officer on this important point.

It cannot be too well known that on the adoption of a more liberal dietary

at the Hanwell Asylum, in 1840, the recoveries were directly increased, and the deaths diminished; other instances may be mentioned.

73. *Dr. Skae's Remarks.*—Dr. Skae speaks of the necessity of giving increased dietary to all the insane; for he says, in speaking of chronic patients, "all of them, I may venture to say, are debilitated in bodily health, and require a generous diet, and in many instances, tonics and stimulants, to keep up such a standard of health as is conducive to the exercise of partial intelligence, and partial enjoyment of life, and habits of industry and cleanliness." It is to such patients that some persons would give a dietary sufficient only to keep them alive.

74. *Remarks by Dr. Stewart.*—Dr. Stewart, of Belfast, says, "the insane as a class, it is admitted by psychological physicians, one and all, require their standard of diet to be, if not of a generous, at least of a more than ordinarily nutritious and liberal character; and providing such for them will, in the end, be found the best economy that could be practised, and certainly more humane. The dietaries of many asylums have undergone a considerable change, and apparently with a diminished mortality.

75. *Dr. Brown.*—Dr. Brown, of Crichton, says, "the insane require a larger quantity of food and stimulants than the sane. This may be said to have almost become a proverb."

(*d.*) *Occupation and Amusement.*

76. *Classification and admission.*—The remarks of Dr. Brown on the admission of patients into an asylum, are well worthy of notice; there can be no doubt in the mind of any one who has studied psychology, that the reception which a patient receives when he is admitted into an asylum, the sympathy displayed by the officers, the attention to his comforts, the class of patients with whom he is placed, both by day and by night, the occupation, amusement, or otherwise, at once determined on, are most important. Dr. Brown remarks, "The first days of a patient's residence in an asylum are most critical and dangerous. If allowed to merge in a large group his peculiarities may be overlooked, his condition less accurately ascertained, and the phase of his malady may be modified by the condition of his companions."

77. *Necessity for Night-watching.*—"The same observation applies, with greater force, on which the mode of nights are passed. The practice in the institution has long been to place the patients in a small group, and under special observation, and, as many of the evils which complicate the management of the insane occur during silence and solitude, to carry this inspection into the night.

"In some cases it has been found beneficial to confide such cases to the exclusive care of one person, that the whole of the disease may be guarded against."

78. *Remarks on Employment, by Dr. Bucknell.*—Dr. Bucknell, of the Devon Asylum, says, "Much attention has been paid to develope the industrial capabilities of this institution; the whole of the clothing, both males and females, has for some time past been made at home; with the exception of one paid shoemaker, the whole of the work has been done by the patients, directed by the ward attendants."

79. *Employment and Amusement.*—Mr. Hill, of the North and East Riding of Yorkshire Asylum, who has with so much ability and with such favorable results carried out the system of employing the insane, observes, in his Report for 1852, "The intrinsic worth of organised employment for the insane is now pretty generally acknowledged. Its value was never more marked than during the raging of the fire.* No confusion was caused amongst

* On the 5th April, at about three o'clock, a.m., the laundry was found to be on fire.

the patients, but each one readily obeyed his instructions, either by collecting buckets, fetching ladders, procuring water-barrels, or in carrying water.

"The common practice, daily, of working in all parts of the premises had so familiarised the patients with everything connected with the place, that although they were suddenly called upon to perform these unusual duties, and the night was dark, they executed every task allotted to them with fidelity.

"The whole of the bed-clothing, &c. in the laundry was consumed, and therefore had to be re-made. An engagement to supply the New County Asylum for Wiltshire, with boots and shoes, and an outfit of male and female clothing and knitted stockings, had just been entered upon; besides which, the linen belonging to the Yeoman School in York—the washing of which has for a long time past added to the means for usefully employing the female patients—had in great part to be replaced. These unprecedented accumulations of needlework and knitting have long ago been completed.

"Out-door labour has been followed, as usual, by a large proportion of the male patients, whose knowledge of gardening and farming is now not very inferior to ordinary paid workpeople. They have improved in management, and the weak-minded and idiotic have acquired very considerable dexterity in the use of the spade, hoeing, raking, wheeling, &c. Last summer the demand for scythes was so numerous that only a part of the mowers could be gratified.

"In the foregoing Annual Report I have pointed out the superior advantages which industry exercises over the minds, bodily health, and conduct of the insane. Whatever measures are best calculated to divert the disordered mind from fixing its attention on the fancies, imaginations, and deceptions of its own creation—notwithstanding they may be ever so difficult of application in numerous instances—should be resorted to; and the more promptly this is done the greater will be the chance of effecting good.

"The proportion of cures from amongst so large a number of apparently confirmed cases of insanity, epilepsy, palsy, and idiocy, must be small; but change of habit in the dirty, the quelling of strife with the turbulent, humbling the proud, pacifying the daring and violent, reconciling the restless, exciting the drone to exertion, the apathetic to observation, the suicide to love of life, the homicide to dread of crime, the thief to an appreciation of honesty, the destructive to esteem value, the slothful to early rising, the melancholic to share in the enjoyments of the cheerful, the reserved to social communion, the mute to speak, the hypochondriac to obliviousness of the past, the dispirited and fretful to happiness, and the morose to civility, are attainments more or less to be obtained."

Mr. Hill, in his zeal to employ patients in his useful occupation, does not forget their relaxation and amusement. Thus, he says—

"Change and variety are indispensable for the insane; cricket, music, dancing, evening parties—on which occasions from 160 to 180 of both sexes meet together in joyous harmony (out of an average population of 236 resident); fruit-gatherings in the summer, daily walks, and whatever can tend to enliven, animate and cheer, are adopted as beneficial agents."

80. *Remarks by Dr. Flynn.*—Dr. Flynn, of the Asylum at Clonmel, observes, "The employment and amusement of the patients are essential features, both as to the preservation of bodily and restoration of mental health. Two ball courts; in fine weather, employment on the lands; working at the trades for a few hours, engagement in domestic duties; occasionally the use of light periodicals, equally free from strong political or polemical tendencies, together

with careful exercise, morning, mid-day and evening, form the essential means of amusement and occupation.

"To say that a rigid or inflexible rule, like that observable in military or prison discipline, existed here, would be contrary not only to fact but to possibility; because patients who, at one period of the day or week are fitted for employment or amusement, may, at the very same period of the next day or week, be only suited for the closest surveillance of the attendants in charge of them. It is for this reason that the greatest possible authority, subject, of course, to the greatest possible accountability, must be left in the hands of the resident physician of any properly conducted asylum, as from constant residence and observation, *he alone* is competent to meet difficulties as they arise, and subdue or remove, on the *instant*, all obstruction to the sound and cautious movement of a machine so complicated and so delicate as a lunatic asylum, open at all times to public view, and supposed to be fit for inspection at a moment's notice; and I am more than happy to state, that it is owing to the existence here of this responsibility and power, no suicides, no very serious accidents, and little beyond ordinary occurrences of everyday life, amongst an equal portion of the members of society at large, have taken place."

81. *Remarks by Dr. Skae.*—Dr. Skae, of Edinburgh, says, "no single agent is, I think, more beneficial in the cure or alleviation of chronic cases of insanity than active employment, particularly in the open air. Independently of its curative agency, nothing conduces more to the general tranquility and happiness of such a community, as general occupation at some industrial work.

"Our weekly ball at the western house, and evening parties at the eastern, have been varied by occasional lectures and exhibitions."

§ IV. MEDICAL TREATMENT.

(*a*) *Pharmaceutic Treatment.*

82. *General principles of treatment.*—Dr. Wingett says, in reference to medical treatment, "The purely medical treatment is only one division of the series of measures essential in the curative process. All the items of this series are eventually dependent, and each one indispensable. Insanity is not cured by the unaided exhibition of medicaments. The resources of the materia medica must be assisted by careful arrangements for moral treatment, comprising occupation, instruction, and amusement, together with the securities for perfect cleanliness, judicious dietary, clothing, exercise, and many other requisites which combine to form a perfectly organised system. If unfortunately it cannot be asserted that the adoption of the numerous expedients invariably leads to the restoration of reason, it can undoubtedly be said that in all cases the misery of the morbid mind can be softened and palliated by them. To make the utmost possible use of the faculties which remain unclouded; to provide those means of enjoyment which are still available; and to endow an asylum with as many of the characters and comforts of home as is consistent with the end in view, are duties equally due to the incurable as to the curable. And if this boon is to be procured simply by the expenditure of a small additional outlay upon the arrangements, how ungenerous and indefensible would it be to withhold those appliances from the poverty-stricken insane. It is nevertheless thought by many whose views regarding this class of individuals are governed by considerations of economy, rather than by the dictates of a benevolent propriety, that much of this machinery partakes of the nature of luxury and is superfluous, and that there is room for retrenchment."

83. *Therapeutic Treatment.*—The medical treatment, continues Dr. Wingett, which has been followed, has been governed by those principles which the advancing science of the present day has announced and established. Next

in importance to the removal of the cause and complications, as steps in the treatment, stand the sedative agents, or calmatives of the nervous system.

84. *Acute Mania.*—The most valuable of these, in the treatment of mania, has been found a combination of the bath, proposed by Briere de Boismont, of Paris, along with leeches applied over the shaven head. The efficacy of the bath has been found to be increased by the simultaneous application of leeches. The patient is placed in a warm bath at 90 degrees, and while there one, two, or three dozen leeches are applied over the surface of the head. When these are removed, the blood is allowed to flow while the individual is still in the bath, and a stream of water at 65 degrees is kept flowing over the head.

"Another method of inducing the same result in certain cases, is to administer grain doses of tartar emetic every three hours, to keep up evident nausea and depression of the circulation for some time, and then to commence the exhibition of the solution of hydrochlorate of morphia, beginning with half-drachm doses, and increasing them gradually to a drachm and a half, with a frequency graduated to the powers of the patient."

85. *Dr. Skae's remarks on removal to an Asylum.*—"All medical men accustomed to observe the progress and nature of mental disease, are unanimous in the opinion that removal to an asylum is an important auxiliary to the remedial measures demanded; and that in many instances it is the leading and most potent measure in determining recovery. Still some inexperienced persons hold the opinion that however calculated such establishments may be to treat the diseased mind, during the period when it is engrossed by frenzied passion, and while the intelligence is incapable of appreciating external realities, they must be baneful in their operation during convalescence, and when the mind has begun to emerge from the delirium or utter darkness in which it is obscured.

"It is thought by these inexperienced persons that the shock to the opening consciousness upon finding itself in the presence of misery, similar to that from which it has just escaped, has a tendency to induce a renewal and confirmation of the original excitement. Experience proves this opinion to be utterly unfounded and gratuitous."

86. *Prejudicial effect of general bleeding.*—Dr. Webster in his report on French Asylums says, "Although it was not originally intended in the present remarks to discuss the medical treatment usually pursued in French 'Asylums one point seems, however, of so much importance that it deserves some notice in these pages; particularly, as great unanimity of opinion prevails amongst the physicians of departmental institutions, with whom I had an opportunity of conversing upon the question. I now refer to the employment of blood-letting as a remedy in cases of insanity. Without an exception, every practitioner was decidedly opposed to the *general* abstraction of blood in maniacal patients, as they considered it not only unnecessary, but often injurious. In many cases venesection produced so much depression, that attacks of mania, which otherwise might have been of short duration, under a different but more judicious mode of treatment, were thereby prolonged, and even ended in fatuity."

87. *Exceptions requiring blood-letting.*—"Of course particular cases of insanity presented themselves where inflammatory symptoms appeared so decided, or in which apoplectic congestion existed to such an extent, that local or general abstraction of blood was then absolutely necessary; nevertheless, these examples were exceptional, and only confirmed still the observations made by the most experienced officers, medical officers of French asylums, respecting the baneful consequences of blood-letting in most cases of menta disease, which came under their cognizance. Indeed, one gentleman remarked

'the delirium of insane patients was never modified by frequent and copious bleedings, but often the reverse.'

"Being supported in these practical conclusions by the opinions of many English physicians, it cannot be too strongly impressed upon the minds of young practitioners, or of those who may not have had much experience in treating cases of insanity, to be always exceedingly chary of using the lancet, as blood once abstracted, cannot be replaced; while the depression thus produced upon the system is not temporary, but often very permanent, and hence highly detrimental. Where bloodletting is thought necessary, tartar emetic will frequently prove in a higher degree advantageous; seeing the debility thereby produced, and its peculiar action upon the patient's frame soon cease when the remedy is discontinued.

88. *Advantage of Tartar Emetic.*—"The preparation of antimony is also very useful in both apparently and really inflammatory cases of mania, affecting strong muscular or plethoric patients; and I firmly believe, if tartar emetic was oftener used instead of abstracting blood, the results would be much more satisfactory." We believe that the observations of Dr. Webster are entertained by most physicians connected with Asylums in this country, and no comments are necessary from us.

89. *Advantage of Warm Baths prolonged.*—Dr. Skae, of Edinburgh, says, "The treatment of the patient has not differed materially from that hitherto pursued, either in principle or in detail. The medical treatment has been continued as in former years, on those great principles which now regulate the best managed asylums; namely, the removal, when is is possible, of those local diseases which may be the existing or predisposing cause of the insanity, the improvement of the general health, and, in a great majority, the use of a general diet. In acute mania, the greatest benefit has been found from the use of prolonged warm baths, accompanied by cold affusion to the head. I am strongly convinced that, in such cases, it is a most valuable sedative, and by abbreviating the duration of the acute symptoms, it diminishes the risk of the patient passing into a state of imbecility, a common result of prolonged mania."

90. *Necessity of a Healthy State of the Secretions.*—As regards the strictly *medical* treatment of lunacy, says Dr. Davy, I may here briefly remark that my first care is to put the secretions into good order, for, unless the digestive apparatus is rendered competent to the due discharge of its important functions, neither food nor medicine can prove of service.

The frequency of stomach and biliary derangements among the insane, either as a cause or a consequence of cerebral disorder, is well known; aperients of a warm or cordial nature seem best adapted to the object in view.

91. *Tonics necessary.*—Debility is a common attendant on the indications of disordered mind; the majority of the patients present signs more or less palpable of a deficient vital principle, the latter being in excess. Persons suffering from recent mania are observed to lose flesh, and if the symptoms of cerebral disease continue to advance, the body becomes gradually thinner, and in extreme cases, presents an appearance of frightful emaciation; under such circumstances, a tonic plan of treatment is evidently called for. A good, even liberal, supply of meat day by day, with porter or bitter ale, or even wine, I have always found the best tonic for insane persons, when given discriminately.

92. *Use of Quinine and Iron.*—Quinine is prescribed oftentimes with great advantage with the mineral acids: steel medicines are of much value, particularly in females, among whom affections of the brain are commonly associated with signs of chlorosis, or an atonic condition of the uterus. Bleeding and other antiphlogistic means are now very rarely employed for the relief of disorders of the mind.

93. *Necessity of keeping in mind general principles of Pathology.*—Again Dr. Davey remarks, "But the recognition of those principles of pathology and therapeuties which guide the physician or surgeon in his management of all diseases, and of every kind of injury, must by no means be forgotten in the treatment of mental disorders; should these be neglected, the medical man will *now* and *then* find reason to regret the consequences; thus, in some instances, it happens that insanity is the direct consequence of a sub-acute inflammation of the membranes of the brain, and when this is the case, the only means to avert the threatened disorganization of the tissues involved, is by the employment of frequent local bleedings, the occasional exhibition of the compound jalap powder, and the internal use of calomel or blue-pill, with extract of henbane, the latter modifies the action of the mercurial on the intestinal canal, and allays the irritation of the cerebral fibres. Counter-irritation must on no account be admitted. Sedatives are of much use to the insane, and may be given with great benefit in many cases."

94. *Treatment of Epilepsy.*—Dr. Boyd, in his fifth report of the Somerset County Asylum, says, "In epilepsy, the tincture of sumbul still seems to mitigate the severity of the fits. In some cases attended with twitchings of the muscles of the face and neck, a solution of atropine applied endermically, after a blister, on the front of the neck, has lessened the number of fits; the strength of the solution was four grains to one ounce of distilled water. Attention has been paid to keeping the bowels open by medicine when the fits are likely to recur, and also to raising the heads of those patients who are subject to fits at night.

Mr. Alderson, of the Nottingham Asylum, in his annual report, speaks of the advantages of the tincture of sumbul in epilepsy.

95. *Use of Valerianate of Zinc in Epilepsy.*—Dr. Fornasari, of the Fain's Asylum, uses the valerianate of zinc in epilepsy, and which, says Dr. Webster, he has lately used in eight epileptic men and four women, of whom none were either paralysed or imbecile. Through this metallic remedy the attacks of epilepsy appeared to be diminished, both in frequency and intensity. Indeed several of the above twelve patients, who actually suffered from seizures every three, six, or ten days, previous to taking valerianate of zinc, derived so much benefit, that he reported more than four months had elapsed without any recurrence, and when a fit did supervene, the attack lost much of its previous intensity and violence, whilst the physical health of the patient so treated, with one exception, became generally ameliorated. The remedy was given at first in moderate doses, but afterwards gradually augmented, and in some cases even to the extent of three grains and a half every morning, fasting. Besides an occasional purgative, frequent baths were likewise employed, and the diet carefully regulated.

As epilepsy is almost incurable, especially in advanced life, or even in middle age, and being very little amenable to remedies, the experience of Dr. Fornasari, in regard to valerianate of zinc in that disease, becomes important, and seems sufficiently encouraging to deserve a further trial by practical physicians.

96. *General Paralysis in the Insane.*—Dr. Boyd says, "In the previous reports I have mentioned that the fatal cases in which *general paralysis* was the diagnostic symptom, were found on examination after death to be accompanied by disease of the spinal cord, the result of inflammation, in which the ventricles and membranes at the base of the brain were generally implicated. Further experience corroborates this statement, and it has rarely happened that there could not be detected a sufficient amount of disease in the spinal cord or base of the brain to lead to the fair presumption that the symptoms were dependent on this cause. In addition to the evidence afforded by a post-

mortem examination, a portion of the diseased parts was in most instances subjected to a microscopical examination by Mr. Gulliver, who found that the 'exudation corpuscles' were most frequently present in the spinal cord itself, and were similar to those delineated and described by Dr. Bennett in his paper on inflammation of the nervous centres. In the treatment of such cases, attention has been mainly directed to checking the inflammation, with which view the *Liquor Hydrargyri bichloridi* has been given to eight males, two of whom are better now than they have been, and one who was confined for several weeks to the web bed with sores, and in a very helpless state, is now able to sit in a chair, and to feed himself, which at one time he was quite unable to do. Another, who was of dirty habits, after taking the medicine for some time, became cleanly, and gained in weight twenty-one pounds in six months; two of the cases are gradually becoming worse, and four appear to be stationary."

b. Moral Treatment.

97. "Insanity," says Dr. Wingett, in his annual report of 1850, "may have either a moral or a physical cause, it may also have a moral or physical cure. To choose and apply the physical remedy successfully, it is required to know perfectly the physical constitution and idiosyncracies of the patient. To select the course of moral medicine it is essential to know the disposition, tastes, prejudices, education, habits, modes of thought, and the turmoil of sentiment or passion which may have operated as causes of the disease. This is in many instances a difficult task. It must be accomplished, however, and the power to do this constitutes the secret of that powerful influence over certain sufferers which some curators of the insane possess.

"The various forms of amusement, classification, and employment, may be looked upon not only as Hygienic measures in the treatment of the insane, but really medico-moral remedies of great use if properly wielded. It is out of place to state here the reasons that would lead us to consider employment, and amusement as medical remedies, but having Bethlem hospital vividly before our eyes, where we find opinions were entertained in opposition to everything which has been proved by experience, the governors denouncing nothing as medical except it could be shown to exist in the form of a bolus or draught, and when we are informed by some that the insane are seldom bodily ill, unless we raised our voice against such dogmas, we might be considered to agree with them in toto. By morbid anatomy, however, we know that scarcely any insane person is free entirely from some physical ailment. How necessary, under these circumstances, does it appear that employment and occupation should be looked upon as remedies, important, it is true, in the treatment of the insane, whether it be to keep their minds up to an imaginary standard, as in the chronic, or to assist in the restoring to a right mind the recent case. Upon this point Dr. Hitchman remarks, 'Although it is an axiom of great practical importance, that the faculties of both mind and body should be employed as much as possible, short of inducing hurtful fatigue, I nevertheless fear that the modern tendency to push employment to an extreme, will, if unchecked, be fraught with deep and permanent injury to chronic lunatics; however much the circumstances may be concealed in the flattering pages of a glowing report, the muscular powers of these unfortunate persons are greatly weakened. They are, as a body, physically unfit for hard and long continued labours, and an increased mortality will be found to proceed *pari passu*, with a large display of remunerative labour, and a *low weekly charge*. May the time never arrive when the superintendants of the Lunatic Hospitals of this kingdom, forgetting their high mission, and disregarding the sublime lessons of Esquirol, Pinel, and Conolly, shall forego the demands of humanity and science, and become mere stewards of finance—

mere ' men pleasers,' seeking fame in a balance sheet, rather than in the cure of their patients, and finding in a larger amount of labour done, a sufficient compensation for much inflicted suffering, and premature death.' "

" O Dii prohibite minas ! O Dii talem avertite causam."

c. Religious Instruction.

98. *Necessity for domestic Religious Instruction for the Insane.*—Dr. Kirkman, the Physician-Superintendent to the Suffolk County Asylum, makes some very judicious remarks on the subject of religious instruction for the insane, and it may not be out of place to notice this subject, seeing that the government of Ireland has lately attempted to force upon the managers of the district asylums a number of chaplains, in opposition to the views of the visiting magistrates and medical officers.

" The subject of religious instruction," says Dr. Kirkman, " is too delicate to be discussed in an ordinary report. It will be enough to convey the repeated conviction that, to be really effective, *professional* can never be supersede *domestic* instruction; the administration should be in that guarded manner which is only learned by the knowledge of the existing peculiarities of the parties addressed. Moral delinquencies may arise from mental idiosyncracies which need great forbearance and a peculiarly delicate mode of conveying instruction in righteousness. A patient went home well, whose relapse after a former discharge, came on, as he expressed it, ' after hearing an alarming sermon;' his morbid conscientiousness was morbidly acted on, and he left the church to cut his throat. He is now well again."

Dr. Hitchman says, " The patients meet in No. 1 male and female wards, respectively, every morning and evening for ' family prayers.' Every patient not incapacitated by illness is expected to attend, unless he should entertain special scruples against the form of prayers used, when such feelings would be respected and dealt with accordingly. A hymn is sung and a few prayers, selected from the beautiful liturgy of the Church of England, are read. The patients and attendants of the asylum meet twice daily at this holy rite. By this training the patients are better fitted to appreciate and to join in the more prolonged services at the chapel."

99. *Religious Instruction in Irish Asylums.*—The Dublin Quarterly Journal makes some remarks on the subject, in which we must entirely agree. " Religious instruction, we must consider, is as much a part of the medico-moral treatment of the patients, as their diet, exercise, employment, medicament, &c., which are placed in the hands of the medical officer charged with the conduct of the whole institution, and who should no more be interfered with in this particular of management than in any other, for the performance of which he alone, and properly so, is the responsible party."

In England, a chaplain of the established church is appointed, who performs service on certain days in each week; too often this officer, we must acknowledge, is very badly remunerated. In addition to doing duty in the chapel, he visits such patients as the medical officer may deem likely to receive benefit therefrom, although some persons consider that it is only to convalescents that a chaplain can minister with much advantage; thus the Rev. Mr. Lewis, of the Devon County Asylum, says, " it is to the convalescents that the visits of the clergyman are more especially serviceable."

The appointment of a chaplain of the established church to our county asylums for the insane in England, must be considered of much advantage; and we should be truly sorry to find the government of England anxious to introduce any other form of worship in addition. Yet we would at all times permit patients to be seen by ministers of their own peculiar denomination, where no medical reason seemed to interfere.

We have, on more than on one occasion, witnessed the effect produced by indiscriminate and injudicious admission of ministers of some persuasions into the wards, in the absence of the medical officer.

§ V. PATHOLOGY OF INSANITY.

100. The 19th volume of the Transactions of the Provincial Medical and Surgical Association, contains a very able article by Dr. Hitchman, the superintendent physician of the Derby County Asylum, on the Pathology of Insanity. As it is a subject which, at the present time, is receiving much attention, and is of great importance to all those who desire to become acquainted with the scientific branch of psychology, we shall take this opportunity of laying before our readers the result of Dr. Hitchman's observations, although the subject was noticed in our number of July, 1852.

"The discrepant opinions of writers," says Dr. Hitchman, "on this subject are proverbial. It will suffice to mention that Greding regarded malformation and disease of the skull as the chief cause. Kiesloff, a modern German writer, ascribes the mischief to contractions of the osseous canals at the base of the skull. Bayle, who wrote in 1825, 'Nouvelle Doctrine des Maladies Mentales,' Paris, 8vo, regards the inflamed and thickened membranes at the base of the brain, as the source of this malady. Guislain, who published his work, 'Traité sur l'Alienation Mentale,' Amsterd., 8vo, in the following year, says that it consists in a sanguineous afflux short of primary inflammation of the brain. Foulle, 'Dict. de Med. et Chir. Prat.,' art. 'Alienation,' 1829, ascribes the mental affection to organic changes in the grey matter of the cerebrum. Cullen writes that it is caused by an irregular distribution of the nervous fluid. Mason, Good, and Crichton adopt the opinion of Cullen. Nasse regarded the thoracic viscera at fault. Pinel thought, that if it arose from any physical lesion, it was from disordered abdominal viscera. Jacobi, of Seigeburgh, shares in this opinion. Weichman ascribes the malady to a contracted colon. Shepperd to disease of the blood.

"Hemroth and some others regard insanity as a purely psychical influence, with which the mere animal organism has nothing to do. The examination of nearly 400 cases leads me to the conclusion that each of the above observers were correct in the special cases before them, but that they err whenever they maintain that the specific lesion which fell under their respective notice was exclusive and general; it appears to me that the great mistake which has been made by pathologists, in this as in other maladies, is the affixing of some individual lesion, as the chief cause of morbid manifestations."

From the observation made by Dr. Hitchman, of 145 cases, of these patients there died—

From diseases of the brain and its membranes	55
Of the respiratory organs	41
Of the heart and pericardium	9
Of the abdominal viscera	6
Of the reproductive organs	7
From general debility, natural decay, or old age	23
Cancer	2
Erysipelas	1
	145

"It was extremely rare to find the disease limited to one organ. Some-

times apoplectic effusions were associated with an hypertrophied heart, at another, the kidneys were in various stages of granular degeneration; for although one case only is reported to have died from disease of the kidney, in many others the kidneys were found in an abnormal condition; whilst to these lesions were added various derangements of the abdominal viscera.

"The forms of mental disorder in the 145 patients above referred to, were respectively as follows; but it should have been previously stated, that of the above number 120 were females, and 25 were males:—

Females.		
Mania	26	
Mania (?)	1	
Mania, with epilepsy	3	
,, with general paralysis	5	
Melancholia	5	
" with general paralysis	3	
Incoherence	15	
Imbecility	40	
,, with epilepsy	7	
Dementia	10	
Senile insanity	4	
Idiocy and epilepsy	1	
		120
Males.		
Mania	1	
,, with epilepsy	1	
,, with general paralysis	6	
Dementia	17	
		25
Total		145

"The dura mater was preternaturally adherent to the skull in about one-third of the cases, and it was especially so in those who had been long insane, and who were at the same time advanced in years. In two cases, this membrane, opposite the sagittal suture, was covered with bone-like exudation, an inch in length and a quarter of an inch broad, and about the thickness of a sixpence; these bony plates, yellowish white in colour, were smooth on their under surface, but rough and uneven at their upper portions. In nine cases the superior longitudinal sinus was thickened by ossific deposits; in one of these nine cases spiculæ of bony-matter projected from its sides, and indented, but did not penetrate the surface of the cerebrum, the brain, in this instance, being much atrophied, and the left cerebral lobe considerably more so than the right. In four there were tumours, varying in size from that of a walnut to a hen's egg, arising from the dura mater, and pressing upon various portions of the brain.

"In one of these patients the tumour was at the base of the skull, and pressed on the left optic nerve, at a point anterior to the outer edge of the crus cerebri, as it was passing forward to join its fellow. The scirrhous thickening was, however, more conspicuous, harder and larger upon and in front of the petrous ridge of the temporal bone, embracing within its substance the semilunar ganglion, protruding forwards and inwards, pressing on

the outer edge of the cavernous sinus, and completely embedding anteriorly the first, second, and third division of the trifacial nerves, as they respectively passed to the cavernous sinus, the foramen rotundum and the foramen ovale. The brain superjacent to this tumour was soft. The patient, during the time I knew her, did not exhibit any active insanity, but was imbecile, passive and lethargic; she occasionally complained of much pain on the same side of the head. The left eye was paralysed, vision extinct, and the pupil greatly dilated.

"The tumour appeared to originate from a fracture of the skull, received several years prior to her admission into the hospital. In 115 cases of the number the arachnoid membrane was more or less opaque and thickened, and contained a considerable quantity of serous fluid. These conditions are almost invariable accompaniments to chronic cases of this disease, and of the 109 cases examined, 100 had been insane for periods varying from one year to twenty years and upwards. In recent cases, this membrane has not exhibited that close adhesion to the pia-mater, thickness and opacity, or possessed that large amount of serous fluid within its sac. In 165 cases, reported from Bethlem hospital, where recent cases only are received, the arachnoid membrane was thickened and opaque in 62 cases only; but in 27 cases examined at St. Luke's, by its highly talented medical officer, Dr. Arlidge, this membrane exhibited more or less opacity in 22 cases.

"In 118 cases the pia-mater was venously congested, and was infiltrated, as it were, with sub-arachnoidean fluid. There will always be discrepant statements of facts between observers; and for this, among other reasons, that some men, with equal skill, pay far greater attention to, and take a deeper interest in some special pursuits than others do. It is not sufficient that a man be a skilful anatomist, unless at the same time he is a painstaking observer.

"In chronic cases of insanity the pia-mater is almost invariably found congested and changed in its character; it becomes much thickened, and can be removed in large masses, without laceration, from the surface of the convolutions of the brain; it sometimes presents a dark hue from the congested condition of the vessels, which ramify on its surface; it is frequently œdematous and bathed in a fluid, which is sometimes of a muddy hue, and of the consistence of diluted jelly. This structure is more frequently affected in chronic lunacy than even the arachnoid membrane itself. Wherever the pia-mater was greatly congested and infiltrated, the choroid plexuses were found to be in a similar condition, and frequently possessed cysts of various sizes, distended with fluid, and others having small particles of sand-like matter in them.

"I may mention that the glandulæ pacchionæ were much enlarged in twenty cases, and these mostly aged patients. Near to these pacchionean bodies the arachnoid membrane was extremely thickened, and had a fibrous appearance; these bodies appeared to perforate the dura mater, and, by their pressure against the cranium, produced its attenuation, and rendered it diaphonous. When these bodies were in isolated groups, they produced circular indentations, corresponding to the size of their superior surface, upon the inner table of the skull, and in a few instances they appeared to coalesce with similar bodies in the arachnoid of the opposite hemisphere, and thus united the superior longitudinal fissure which ordinarily separates the cerebral lobes.

"In one epileptic patient the pia mater was strewed with hydatids, varying in size from that of a vetch to the size of a bean, and even larger.

"The convolutions of the brain were sunken, atrophied, or soft in 72 patients out of 119 who were examined, and all these had either been insane for long periods, or were in a state of extreme imbecility or dementia.

"In such cases in looking down upon the brain through the thickened pia mater, the convolutions have a brownish hue, owing to the presence of large quantities of serous fluid. The convolutions are diminished in size laterally, and also in depth, and on their surface may frequently be seen small depressions occupied by this effused serum. In general paralysis associated with dementia, these are very common.

"In advanced stages of dementia the surface of the convolutions, when cut, sometimes presented a dark hue. In three cases, all of whom died while suffering under *acute* mania, the cineritious neurine of the convolutions was of a pink or roseate hue; it was pale or blanched in sixty-four instances, and in all these patients had been long insane and presented little mental power.

"The fibrous part of the encephalon was softened in nineteen cases, greatly congested in twelve cases. In eight patients, all of whom died from general paralysis, the structure was firm and tough, in one instance so firm that I lifted a large portion of the brain,—in one the left cerebral lobe was one-third less than the right, and the whole weighed one pound six ounces and a half.

"This patient was idiotic, and the right arm was shriveled and paralysed from birth. In ten cases the lateral ventricles were stretched and distended with clear serous fluid; and in two patients who died of apoplexy, the right ventricle was filled and lacerated by effusion of blood.

"In one patient, who died soon after admission, and who exhibited no symptoms of mental derangement during the short period she was under treatment, but was partly comatose, answering questions briefly, yet rationally, when aroused, the middle hemisphere was distended with pus.

"The pituitary body was frequently found in a diseased condition.

"We have now seen that out of 119 cases examined, there was some disease or other in the cranium, the meninges, or the brain, in 108 of the number; and in 1 only was there no trace of cephalic lesion, and that case died of cirrhosis of the liver, after being for some time despondent and suicidal.

"There is much reason to believe that, in the insane, the viscera of the chest are more frequently diseased than those of the abdomen. Atrophy and fatty degeneration of the muscular tissues of the heart are common. So are diseases of valves of that organ. Chronic pleurisy and extensive pleuritic adhesions are frequent. Pulmonary phthisis is common, but in a masked form; sometimes tubercles form, and even tubercular excavations take place, without manifesting any of those distressing symptoms of cough, expectoration and restlessness which characterise this malady in the sane. The symptoms of mania and phthisis sometimes act as revulsive to each other; the mind becomes calm as the pectoral disease manifests itself, and the cough and expectoration disappear when mania in its acute form sets in."

After making some remarks on disease formed in the abdominal cavity, Dr. Hitchman says, "no one can make frequent post-mortem examinations of chronic lunatics, without being deeply impressed with the idea, that the great central nervous organ being diseased, the whole vital functions have become impaired; nutrition has been perverted or arrested, and a general tendency to deterioration and disorganisation has been set up in all the organs of the body; the practical inference to be deduced being, that cure in such cases can only be effected by long continued and well regulated hygienic measures, carried on under cheerful moral influences, in a pure and bracing atmosphere."

Dr. Hitchman proceeds to give his conclusions from the observations he has made, which we will give at length, and must then linger no longer with his interesting paper.

Insanity may be produced

PRIMARILY.

A. By some change in the brain itself induced by moral (psychical) causes. — Joy, grief, anxiety, shame, &c., intense and prolonged intellectual exertion.

B. By similar change or changes, induced by physical (somatic) causes in the brain. — *e. g.* Impaired nutrition, irregular development of the hemispheres, mechanical violence.

SECONDARILY.

A. By malformation, or disease of the bones of the skull.

B. By changes in the membranes of the brain.

C. By changes in the cerebral circulation. — *e. g.* Deficiency of blood through a mechanical closure of the arteries from atheromatous deposits, or by arteries otherwise diseased. By retardation in the return of venous blood from any cause, mechanical or vital. By an excess of blood, or its too active circulation; or the converse of these, from various conditions of the heart, and other causes.

D. By impoverished blood (impaired nutrition) by blood containing other than its healthy constituents. — *e. g.* Blood containing alcohol, "hachisk," lead, &c.

E. By defect or disease of the organs of sense.

F. By disease of the assimilating organs. — Primary—Unhealthy chyle. Secondary—Arrest of secretion. — See above — Blood diseases.

G. By sympathy of the brain with irritation of remote structures and organs. — *e. g.* The skin, mucous membrane, heart, lungs, stomach, liver, kidney, bladder, testis, ovaries, uterus.

Each and all of these causes act by producing functional disturbance or structural change in the vesicular neurine (grey matter) of the encephalon.

IDIOCY.—Vesicular neurine of the brain, congenitally defective; or changed in its character by convulsive or other diseases in childhood.

101. *On the specific gravity of Cerebral Substance and on Atrophy of the Brain.* — In the *Lancet* of Dec. 29, 1852, Dr. Bucknill has made some observations on this subject, which we consider well worthy of notice, and having ourselves made similar observations lately in cases that have occurred in the Norfolk County Asylum, we can the more appreciate the value of Dr. Bucknill's interesting paper.

"Hitherto in pathological descriptions of the cerebral substance, the terms softening and induration have been used in the most loose and uncertain manner. When actual ramollissement proceeding to liquefaction occurs, there can be no doubt about the matter, and the senses of touch and sight require no adjuvants.

"These decided changes are found when limited portions of the organ are affected; but when these pathological changes implicate the whole of the brain, death takes place before they have proceeded so far as to leave very sensible and appreciable alterations of structure.

"I do not believe," says Dr. Bucknill, "that the brain is nothing more than a galvanic battery 'perfectionated,' but the two have so many points in common, that for a long time past a legitimate analogy has been drawn between them. Pursuing this analogy, we find that the working of a galvanic battery may be impaired by the liquid in the cells becoming neutralized by the disarrangement of the plates, or by interposition of any substance having feeble powers of conduction; on the other hand, the functions of the brain may be impaired, or interrupted by an alteration of the nutritive fluid; by a sudden shock, which may disarrange the vesicles and tubules; or thirdly, by the interposition of inert material between its active molecules. It is to this last condition in particular that I am anxious to direct attention.

"The interposing material may be albuminous, fatty, or serous. An albuminous deposit pervading the brain appears to be known as hypertrophy of that organ. This condition is rare, out of 240 autopsies of insane patients, I have only met with it once."

"The deposition of fatty material in the brain is a subject of deep importance and interest. In examining circumscribed softenings under the microscope, I have almost invariably found a great increase of fat globules; but as yet I have been unable to satisfy myself whether in any changes pervading the whole organ, the fatty matter is increased.

"The deposition of serous fluid throughout the substance of the organ is a frequent condition, and is, I think, constant in cases of general paralysis, dementia, and all forms of chronic mental disease, accompanied by loss of power. Those cases, however, which are occasioned and accompanied by epilepsy form an exception.

"I have long felt the want of some trustworthy measure of the relative amount of the solid and fluid constituents of the brain.

"The specific gravity of the cerebrum and cerebellum is ascertained by immersing a portion of each in a jar wherein a sufficient quantity of sulphate of magnesia has been dissolved to raise the density of the fluid to the point required, adding water, or a strong solution of the salt, until the cerebral mass hangs suspended in the fluid, without any tendency to float or sink; and then, by testing with the hydrometer, the specific gravity is thus found with great delicacy and facility, a difference of half a degree in the density of the fluid being indicated by the rise or fall of the substance immersed. The soluble salt is chosen for its possessing no astringent or condensing action upon animal tissues. In eight cases of general paralysis, the average specific gravity of the cerebrum was 1039½; the highest, 1042; the lowest, 1038. The average of the cerebellum was 1042; the highest, 1045, the lowest, 1037.

This is below the specific gravity of healthy cerebral substance, which may be taken at 1046. Upon these grounds I submit my right to assume, that in general paralysis the density of the brain is diminished.

"It is a point of the greatest importance to determine how much of the diminished specific gravity in brain tissue is to be attributed to the effusion of serum, and how much to the accumulation of fatty matter. I am convinced that in true circumscribed softening of the brain (true ramollissement) the low specific gravity is to a great extent owing to the amount of fatty matter deposited.

"Is the serum effused into softened brain imbibed into the vesicles, or does it remain interstitial? M. Guislan states, that 'these cells of the fundamental tissue of the grey substance present themselves *ten times larger* than their normal state. In ramollissement, the serum escaped from the vessels penetrates the interior of these cellules, and provokes their distension. It is a true imbibition.' After diligent search with a first-rate instrument, I have been unable to observe these immense vesicles; and I think that the loss of cohesion in the brain substance, would also indicate that for the most part the effused serum remains interstitial.

"In the diseases accompanied by low specific gravity, the absolute weight of the brain, as compared with the capacity of the cranium, is diminished to a greater extent than can be accounted for by loss of specific weight; and, on the other hand, in epilepsy, apoplexy, and cerebritis, the weight of the brain, as compared with the capacity of the cranium, exceeds the standard of health."

Dr. Bucknill concludes by saying, "These investigations are as yet too young to fructify into trustworthy deductions; but I think they will establish the existence of two kinds of cerebral atrophy, namely, positive atrophy, and interstitial or relative atrophy, which may or may not be co-existent." By positive atrophy, I wish to indicate an actual shrinking of the brain, and by relative atrophy an interstitial change, wherein the active cerebral molecules suffer diminution, and inert materials are deposited, It will be well to restrict the term ramollissement to the circumscribed and decided softening of which it was in the first instance applied." We wished to have quoted the article at greater length, but space will not allow us to say any more on the subject.

§ VI. JUDICIAL INSANITY.

102. In the Report of the Commissioners in Lunacy for June, 1851, a case is reported of manslaughter by an attendant in a private asylum. Although it appears important that the evidence of patients should, to a certain extent, be taken, provided there is nothing to interfere with the credibility of such evidence, yet persons have come under our observation whose insanity appeared, to a great extent, to consist in the power to deceive, and the propensity to tell falsehoods; every precaution should therefore be taken by a jury before they accept the evidence of every lunatic who may really appear sane. The previous history of some inmates of asylums is at times most important to be noticed, although the present case does not appear to call for particular observation.

A pauper, of the name of Moses James Barnes, was admitted as a lunatic patient into Peckham House, in March, 1850. In December of the same year, that he was resident in the infirmary, and was under the care of Samuel Hill, one of the attendants. On the evening of the Monday next before Christmas day, the patient refused to go to bed, and Hill, the attendant, laid hold of him, and threw him violently on the floor, the consequence of which

was, that one of the arms and four of the ribs of the patient were broken. The violent conduct of the attendant was witnessed by a patient named Richard Donelly, but no serious consequences being apprehended at the time, Donelly did not tender anyinformation on the subject, and the patient Barnes himself, was, by reason of his insanity, scarcely in a condition to make it a matter of complaint.

"It was evident that Hill must have known that Barnes's arm had been injured, inasmuch as he was unable to move it; but he made no mention of the fact until the following Friday, when he showed the arm to the head attendant of the ward, who brought the case under the notice of the medical officer of the asylum; surgical assistance was immediately afforded by them to the patient, and a statement of the facts transmitted to our board, who thereupon authorised two of its members forthwith to investigate the matter. The patient himself lingered until the 2d of January last, when he died. An inquest was held upon the body, and subsequently a *post-mortem* examination took place, when the fractures of the arm and ribs were discovered.

"A prosecution was instituted against Samuel Hill, who was tried and found guilty of the manslaughter mainly upon the evidence of Richard Donelly, a lunatic, judgment was postponed, in order that the opinion of the judges might be taken as to the admissibility of his evidence.

"This question was subsequently argued at great length before five of the judges, when the evidence of Donelly was held to have been properly admitted, and the conviction was affirmed. Eventually Samuel Hill was sentenced to twelve months' imprisonment."

Thus it appears, "that the lunatic may be examined himself, that his state of mind may be discovered, and witnesses may be adduced to show in what state of sanity or insanity he actually is; still, if he can stand the test proposed, the jury must determine all the rest."

103. *Change in the Laws of Lunacy.*—The laws which relate to asylums and insane patients in England and Wales, have, during the last session of parliament, undergone revision, and new bills have been introduced and passed, which came into operation 1st November last.

The first statute relating to lunatics and idiots, was passed in the seventeenth year of the reign of Edward II, which provides, "that the King shall have custody of the lands of natural fools, and after the death of such idiots, he shall render the lands to their right heirs."

Thus was the king's prerogative declared, and hence the chancellor, as the keeper of the king's conscience, is the general guardian of all idiots and lunatics in the kingdom.

By the 17 Geo. II, c. 5, it is enacted "that lunatics and mad persons may be apprehended, locked up, and if necessary, *chained*, and so *locked up and chained*, passed on to their legal settlement, and so chained, kept securely there."

This act remained in force until the year 1829, and allowed justices to erect asylums for the insane; seven only were erected at that time, accomodating 1457 patients.

In 1827 all previous acts were repealed, and a consolidation of certain clauses was made.

Towards the close of the session 1844, Lord Ashley brought the report of the commissioners before the attention of parliament, and further changes were made in the law of lunacy. It repealed former statutes, and created a board of commissioners permanently, six of whom were to be professional men, and to be paid an annual salary; of these, three are to be physicians and three barristers, and the whole to cease to practice, and henceforth termed the Commissioners of Lunacy.

The new law of lunacy, 16 and 17 Vict., cap. 97, relating to lunatic asylums

for counties and boroughs, and the maintenance and care of the pauper insane, provides for the establishment of an asylum by every county, and by every borough having six justices besides the recorder.

All boroughs neglecting to provide an asylum, or to contract for the care of their pauper lunatics, may be annexed by the secretary of state to the county asylum. The justices of boroughs annexed shall appoint two justices to be members of the committee of visitors of the county asylum.

By section 53, all general regulations for the management of asylums are to be submitted to one of her majesty's principal secretaries of state, and within twelve months after the completion of every new asylum. In such regulations shall be set forth "the number and description of officers and servants to be kept, the duties to be required of them, and the salaries to be paid them respectively; and every such committee shall, from time to time, determine the diet of the patients; and in and by such regulations, such committee may direct that any number of beds in such asylums, and in such respective parts thereof as such committee may think fit, shall be always reserved for such cases as in and by such regulations shall be in this behalf mentioned, and in such case, such asylum shall, for the purposes of this act, as respects the admission of all cases not within the description or class for which such beds are reserved, be deemed full when there are no vacant beds in such asylum except those so reserved." "And any such committee may, if they see fit, by any such regulations or order, exclude from admission into the asylum persons afflicted with any disease or malady which such committee may deem contagious or infectious, and persons coming from any district or place in which any such disease or malady may be prevalent."

By section 55, the visitors are to appoint a chaplain to perform service once a week, or oftener, as the visitors may direct, according to the rites of the church of England; and if any patient be of a religious persuasion differing from that of the established church, a minister of such persuasion, at the special request of such patient or his friends, shall, with the *consent* of the medical officer, and under such regulation as he shall direct, be allowed to visit such patient at proper and reasonable times.

The committee shall appoint a *Medical Officer*, who shall be resident in such asylum; and the committee shall appoint, if they think fit, a visiting physician or surgeon; and shall from time to time appoint the medical officer, or one of the medical officers (if more than one) of each division, to be superintendent of the asylum, or of such respective division thereof, and may remove any such officer from being such superintendent; and such superintendent shall be resident in the asylums. Provided always, that it shall be lawful for the said committee, with the sanction and approbation of one of Her Majesty's principal secretaries of state, to appoint any person other than such medical officer to be such superintendent.

By section 57, one very important clause is that which permits the visitors to grant superannuations to any of the officers, whether incapable from sickness, age, or infirmity, or retiring from long service or age.

We do not see any provision for decayed commissioners in lunacy. Some method for superannuation of such, we think, should be devised.

By section 65, "Any physician, surgeon, or apothecary to be appointed by the guardians of the union or parish and the overseers of any parish, shall be permitted, whenever they see fit, between the hours of eight in the morning and six in the evening, to visit and examine every or any pauper lunatic chargeable to such union or parish confined in any asylum, registered hospital, or licensed house," unless the medical officer of the asylum deem such visit injurious.

By section 66, every pauper lunatic not in an asylum, registered hospital, or licensed house is to be visited once a quarter by the medical officer of the parish or union, and lists of such lunatics to be sent to the commissioners in lunacy by the clerk. "The medical officer shall state therein whether, in the opinion of such medical officer, all or any of such lunatics are or are not properly taken care of, and may or may not properly remain out of an asylum; also the age, form of mental disorder, duration of present attack; if ever restrained, why, and by what means, and how often. The several quarters of the year to be considered as ending on the 31st day of March, the 30th day of June, the 30th day of September, and the 31st day of December. Within seven days after the end of each quarter, such Medical Officer shall prepare and sign the list, according to a prescribed form; and in case of neglect, shall, for every such offence, forfeit any sum not exceeding twenty pounds or under two pounds."

By section 67, "Every medical officer of any parish or district shall give notice to the Relieving Officer of any lunatic being a proper person to be sent to an asylum, within three days after receiving such information."

By section 70, "If any medical officer of any parish or union omit for more than three days, after obtaining knowledge, to give notice to the relieving officer of any pauper resident in such parish being a fit person to be sent to an Asylum, he shall, for every such offence, forfeit a sum not exceeding ten pounds."

In the form of medical certificate a difference is to be made in "facts indicating insanity observed by the medical man" and "other facts, if any, indicating insanity communicated by others."

We subjoin an abstract of the law relating to private asylums, taken from the 'Psychological Journal:'

"The commissioners in lunacy have issued a circular, addressed to the proprietors and superintendents of private and public lunatic asylums, requiring them, in accordance with the section 37, to have a Queen's printer's copy of this Act, 16 and 17 Vict., cap. 96, entitled 'An Act to amend an Act passed in the 9th year of Her Majesty, for the Regulation of the Care and Treatment of Lunatics,' bound up in the 'Visitor's Book,' along with the former Act, 8 and 9 Victoria, cap. 100.

"The following is a general and brief summary of the alterations and amendments contained in the sections of the Act referred to:

I.

Two or more houses may be included in one license, if the land be in the same occupation, or if such buildings be separated by a road.

II.

The form of the order of reception is slightly altered. The forms of medical certificates are also changed, requiring the facts to be specified which the medical practitioners signing the certificate have observed, which are to be distinguished from those communicated to them by other persons. (Schedules A and B.)

III.

The same form of notice of admission to the commissioners, upon a patient being admitted into an asylum, is now prescribed for both private and pauper patients. (Schedule C.)

IV.

The orders of reception and medical certificates may, in cases of informality,

after the reception of a patient into an asylum, be returned for amendment. (Sec. xi.)

V.

A discharged patient may, with the assent of the commissioners or visitors, be retained in a licensed house, and a relative or friend may, with the like assent, be received therein.

VI.

Patients may, under peculiar and specified circumstances, be admitted into licensed houses upon *one* medical certificate; but *two* additional ones must be obtained within two days after the reception of such patient. The former Act requires only *one* additional certificate.

VII.

Single patients in unlicensed houses are placed under the same protections as persons in licensed houses. (Secs. viii, xiv, xv, xvi, xvii, xviii.)

VIII.

On recovery of a patient, notice is to be given by the superintendent or proprietor to the friends, and, in the case of a pauper, to the guardians; and in default of the patient being discharged or removed within fourteen days after such intimation, notice to be transmitted to the commissioners or visitors. (Sec. xix.)

IX.

Notice, in case of death, is to be sent to the Coroner of the county or borough, with a statement setting forth the duration of the disease and cause of death; who may thereupon, if there be any reasonable suspicion, cause an inquest to be held. The particulars transmitted to the Coroner to be entered in the Case Book. (Sec. xix.)

X.

Notice of dismissal for misconduct of nurses or attendants to be sent to the commissioners within one week after the date of such dismissal. (Sec. xxvi.)

XI.

The duties of the commissioners are materially facilitated by vesting the powers of the private committee in the persons of one or two of the commissioners (sec. 27); by the like provision for the visitation of workhouses (sec. 28); and by their having the legal power to employ persons, in special cases, to make enquiries and report thereon to them (sec. xxix.)

XII.

Commissioners authorised, with the sanction and approbation of one of Her Majesty's principal secretaries of state, to make regulations for the government of any licensed house. (Sec. xxxi.)

"Such are the principal alterations in the new Act which now demand the attention of proprietors and medical superintendents."

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